

**FIELD ENGINEERING AND TECHNOLOGY****Review of *Petrochemical Industry* unit standards**

<b>Subfield</b>	<b>Domain</b>	<b>Id</b>
Petrochemical Industry	Oil and Gas Drilling Rig Preparation and Assembly	11159, 11168-11176
	Oil and Gas Onshore and Offshore Drilling Safety	11160-11166, 11177-11185
	Oil and Gas Well Drilling	11186-11224
	Oil and Gas Well Drilling Support	11167, 11225-11279

The NZ Extractive Industries Training Organisation (EXITO) has completed the review of the unit standards listed above.

**Date report published** **January 2007**

**Summary of review and consultation process**

The unit standards within the selected Oil and Gas domains in the Petrochemical Industry subfield have not been picked up and used by stakeholders. The unit standards within these domains will now be designated expiring and be replaced with the more suitable package of Australian units of competency. This will give recognition to both New Zealand and Australian Qualifications and provide a greater uptake through a more recognised and accepted industry package.

**Main changes resulting from the review**

The review process has resulted in the following changes to the unit standards.

- The existing Oil and Gas domains in the Petrochemical Industry subfield will be designated lapsing and the standards reviewed and designated Category D (expiring). A new domain Drilling - Hydrocarbon has been registered in the Drilling Industry subfield, to replace these domains, and Australian units were registered on the NQF in November 2006 (23171-23222).
- Unit standard 23172 replaced unit standards 11162 and 11166.

**Unit standards categorised as category C or D expire at the end of December 2007.**

**Impact on existing provider accreditations**

<b>Current Accreditation for</b>			<b>Accreditation extended to</b>		
Nature of accreditation	Classification or Id	Level	Nature of accreditation	Classification or Id	Level
Subfield	Petrochemical Industry	Any	Subfield	Drilling Industry	Same
Standards	11162, 11166	2	Standard	23172	2

**Impact on Accreditation and Moderation Action Plan (AMAP)**

Standards previously registered on AMAP 0124 have been transferred to AMAP 0114.

## Impact on existing qualifications

Qualifications that contain the reviewed standards or classifications are tabled below.

<b>Affected</b>	The qualification lists a reviewed classification (domain or subfield) in an elective set The qualification lists a standard that has changes to level or credits The qualification lists a C or D category standard
<b>Not materially affected</b>	The qualification lists a standard that has a new title The qualification lists a standard that has a new classification

The following New Zealand Industry Training Organisation qualifications are affected by the outcome of this review and will be updated accordingly. The items that generated the affected status are in **bold**.

Qualification title	Classification in the qualification
National Certificate in Occupational Health and Safety (Workplace Safety) (Level 3) [Ref: 0801]	Petrochemical Industry
National Certificate in Occupational Health and Safety (Co-ordination) (Level 4) [Ref: 0944]	Petrochemical Industry

## Summary of main changes

All changes are in **bold**.

Key to review category	
A	Dates changed - the replacement unit standard carries the same id and a new version number
B	More significant changes, but the overall outcome remains the same - the replacement unit standard carries the same id and a new version number
C	Major changes that necessitate the registration of a replacement unit standard with a new id
D	Unit standard will expire and not be replaced

Subfield      Petrochemical Industry

Domain       Oil and Gas Drilling Rig Preparation and Assembly

<b>Id</b>	<b>Title</b>	<b>Level</b>	<b>Credit</b>	<b>Review category</b>
11159	Interpret and use drilling maps, plans, and documentation	4	5	D
11168	Conduct, and report results of, on site drilling rig inspections and hazard identification	4	5	D
11169	Plan, prepare, and document the loading, transportation, and unloading of a drilling rig	4	1	D
11170	Assist with the planning and preparation for the loading, transport, and unloading of a drilling rig	2	1	D
11171	Supervise the loading, transport, and unloading of a drilling rig	3	1	D
11172	Assist with the loading, transport, and unloading of a drilling rig	2	1	D
11173	Plan, and prepare the assembly, and disassembly of a drilling rig	4	2	D
11174	Assist with the planning and preparation for the assembly, and disassembly, of a drilling rig	2	2	D

Id	Title	Level	Credit	Review category
11175	Supervise the assembly, and disassembly, of a drilling rig	4	2	D
11176	Assist with the assemble, and disassembly, of a drilling rig	2	2	D

**Domain** Oil and Gas Onshore and Offshore Drilling Safety

Id	Title	Level	Credit	Review category
11160	Prepare, deliver, and assess rig site safety inductions for a drilling rig	4	20	D
11161	Conduct and report on a pre spud inspection for a drilling rig	4	5	D
11162	Identify, and demonstrate response to, drilling rig hazard, evacuation, and gas detection alarms	2	1	C
11166	Explain and demonstrate evacuation procedures on a drilling rig	2	1	C
<b>23172</b>	<b>Assist in maintaining rig safety and emergency procedures in a hydrocarbon drilling environment</b>	<b>2</b>	<b>7</b>	
11163	Interpret, implement, and report on use of spill contingency plans on a drilling rig	4	2	D
11164	Demonstrate knowledge of, and use, tagout and lockout procedures on a drilling rig site	3	1	D
11165	Produce, implement, and monitor tag out and lock out procedures for a drilling rig site	5	5	D
11177	Hang off drill string in well head before extreme weather on an offshore drilling rig	4	10	D
11178	Carry out and participate in gas emergency and collision drills on an offshore drilling rig	2	1	D
11179	Carry out and participate in man overboard drills	2	1	D
11180	Carry out and participate in rig abandonment drills	2	1	D
11181	Assist with the management and control of critical situations on an offshore drilling rig	3	3	D
11182	Carry out and participate in hydrogen sulphide (H2S) emergency drills on an offshore drilling rig	2	1	D
11183	Carry out and participate in pit and blow out drills on an offshore drilling rig	2	1	D
11184	Carry out and participate in fire drills on an offshore drilling rig	2	1	D
11185	Explain emergency response plans and procedures in an offshore drilling environment	4	1	D

## Domain Oil and Gas Well Drilling

<b>Id</b>	<b>Title</b>	<b>Level</b>	<b>Credit</b>	<b>Review category</b>
11186	Demonstrate knowledge of, and appraise cuttings from, mud screens for impact on drilling operations	3	2	D
11187	Demonstrate knowledge of different types of well drilling and related major safety hazards	2	2	D
11188	Implement, manage, identify deviations, and report on use of a well drilling plan on a drilling rig	4	2	D
11189	Explain, operate, and troubleshoot generators and electrical equipment on a drilling rig	4	20	D
11190	Demonstrate knowledge of electrical power conversion on a drilling rig	4	20	D
11191	Demonstrate knowledge of different types of drilling fluid on a drilling rig	3	5	D
11192	Identify, handle, and troubleshoot drill strings and drill collars on a drilling rig	2	2	D
11193	Identify, operate, and troubleshoot hoisting system equipment on a drilling rig	3	5	D
11194	Explain, operate, and troubleshoot draw works equipment on a drilling rig	3	5	D
11195	Identify, control, kill, and report on kicks occurring during drilling of a well	4	12	D
11196	Identify, perform, and troubleshoot drill floor support tasks on a drilling rig	2	2	D
11197	Assist in handling choke, kill lines, riser tensioners, and slip jointing diverter on a drilling rig	2	2	D
11198	Inspect, identify and perform routine maintenance of derrick equipment on a drilling rig	2	1	D
11199	Explain, operate, and troubleshoot spinning and torquing equipment on a drilling rig	2	1	D
11200	Explain, operate, and troubleshoot rotary kelly and swivel equipment on a drilling rig	2	1	D
11201	Explain, operate, and troubleshoot drill pipe slips on a drilling rig	2	1	D
11202	Demonstrate knowledge of bits and bit selection in relation to ground formation on a drilling rig	3	3	D
11203	Demonstrate knowledge of the operation and theory behind weight on bit and bit hydraulics on a drilling rig	3	1	D
11204	Select rotary speed for drilling formations on a drilling rig	3	2	D
11205	Demonstrate knowledge of the effect of altering drilling parameters on penetration on a drilling rig	3	2	D
11206	Prepare for, and undertake, analytical calculations for drilling on a drilling rig	4	6	D
11207	Explain different formation properties encountered during a drilling operation on a drilling rig	3	3	D
11208	Explain causes of drag, stress, and torque on a drill string in a well on a drilling rig	3	3	D
11209	Explain cause, reason, effect of, and steps to avoid stress on a drill bit on a drilling rig	3	3	D

<b>Id</b>	<b>Title</b>	<b>Level</b>	<b>Credit</b>	<b>Review category</b>
11210	Demonstrate knowledge of casing and cementing on a drilling rig	3	3	D
11211	Identify, operate, monitor, and troubleshoot transmission equipment on a drilling rig	3	1	D
11212	Identify, operate, monitor, and troubleshoot internal combustion engines on a drilling rig	3	1	D
11213	Identify, operate, monitor and troubleshoot heat exchangers on a drilling rig	3	1	D
11214	Identify, operate, maintain, and troubleshoot hoisting auxiliary equipment on a drilling rig	3	3	D
11215	Identify, operate, and troubleshoot a drilling console on a drilling rig	3	2	D
11216	Assist with down hole deviation measurement while drilling on a drilling rig	2	1	D
11217	Identify, and assist with the operation and servicing of drill floor equipment on a drilling rig	2	1	D
11218	Explain principles of, and assist with, inclinometer measurement survey for directional drilling	2	1	D
11219	Identify, operate, and monitor mechanical air operated equipment on a drilling rig	2	1	D
11220	Identify, operate, monitor, and troubleshoot top drive drilling equipment on a drilling rig	3	2	D
11221	Identify, operate, monitor, and troubleshoot rotary drive drilling equipment on a drilling rig	3	1	D
11222	Demonstrate knowledge of mud system hydraulics and calculations on a drilling rig	3	3	D
11223	Identify, operate, and monitor hydraulic equipment on a drilling rig	3	3	D
11224	Demonstrate knowledge of downhole problems on a drilling rig	3	10	D

Domain Oil and Gas Well Drilling Support

<b>Id</b>	<b>Title</b>	<b>Level</b>	<b>Credit</b>	<b>Review category</b>
11167	Prepare, carry out, and report on laboratory tests on mud in a drilling environment	2	1	D
11225	Demonstrate knowledge of the principles and procedures to jack up an offshore drilling rig	3	3	D
11226	Slacken and monitor lee anchors in extreme weather on an offshore drilling rig	3	1	D
11227	Laydown, secure, and monitor cranes on an offshore drilling rig	2	1	D
11228	Assist with the preparation for, transport, and relocation of an offshore drilling rig	2	1	D
11229	Prepare, secure, and monitor equipment on an offshore drilling rig in preparation for relocation	2	1	D

<b>Id</b>	<b>Title</b>	<b>Level</b>	<b>Credit</b>	<b>Review category</b>
11230	Demonstrate knowledge of submersible offshore drilling units	3	3	D
11231	Demonstrate knowledge of jack up offshore drilling units	3	2	D
11232	Demonstrate knowledge of semi submersible offshore drilling units	3	3	D
11233	Demonstrate knowledge of operating shipshape drilling units	3	3	D
11234	Demonstrate knowledge of the operation of mooring systems on an offshore drilling rig	3	3	D
11235	Operate, monitor and maintain subsea blowout preventers and risers on an offshore drilling rig	4	10	D
11236	Demonstrate knowledge of subsea blowout preventers and marine risers on an offshore drilling rig	3	3	D
11237	Prepare, perform, and shut down helicopter refuelling operations on an offshore drilling rig	2	2	D
11238	Identify, explain, and prepare land based drilling rig blow out prevention equipment for installation	2	2	D
11239	Prepare wellhead for blow out prevention equipment installation on a land based drilling rig	2	2	D
11240	Identify, explain, and install blowout prevention equipment on a land based rig	2	2	D
11241	Identify, explain, monitor, and operate blowout prevention equipment on a drilling rig	3	1	D
11242	Assist in the preparation and installation of blowout prevention equipment on a drilling rig	2	1	D
11243	Identify, prepare, check, and tally oil well casing tubulars for use on a drilling rig	2	1	D
11244	Assist with the set up and installation of cementing equipment for use on a drilling rig	2	1	D
11245	Prepare and run casing down the well hole for cementing on a drilling rig	2	1	D
11246	Calculate down hole cement requirements on a drilling rig	3	2	D
11247	Troubleshoot and rectify faults on casing and cementing on a drilling rig	4	3	D
11248	Demonstrate knowledge of cementing principles and equipments on a drilling rig	3	2	D
11249	Prepare and mix cement additives for oil or gas well drilling operations	2	1	D
11250	Identify, explain, operate, and monitor cementing equipment on a drilling rig	3	2	D
11251	Demonstrate knowledge of cementing and casing accessories on a drilling rig	3	2	D
11252	Demonstrate knowledge of the application of casing handling equipment on a drilling rig	2	2	D
11253	Identify, operate, maintain, and troubleshoot mud system equipment on a drilling rig	2	2	D

<b>Id</b>	<b>Title</b>	<b>Level</b>	<b>Credit</b>	<b>Review category</b>
11254	Prepare and sample drilling fluids on a drilling rig	2	1	D
11255	Monitor pit levels and mud properties to determine down hole conditions for drilling rig operations	2	2	D
11256	Demonstrate knowledge of the theory behind well control on a drilling rig	3	10	D
11257	Demonstrate knowledge of mud based drilling fluids and additives on a drilling rig	3	5	D
11258	Assist with the making up and sampling of drilling mud on a drilling rig mud system	2	1	D
11259	Identify, explain, and assist with the operation of mud system equipment on a drilling rig	2	1	D
11260	Install, monitor, operate, and troubleshoot slickline wire line tools on a drilling rig	3	2	D
11261	Demonstrate knowledge of wireline operations on a drilling rig	3	4	D
11262	Install and troubleshoot completion products with a wireline on a drilling rig	3	10	D
11263	Identify, maintain, and operate logging pressure control equipment on a drilling rig	3	3	D
11264	Assist with the operation of electric wireline measurement tools on a drilling rig	2	1	D
11265	Assist with wireline perforation on a drilling rig	2	1	D
11266	Assist with the installation of packers, plugs, and retainers with a logging line on a drilling rig	2	1	D
11267	Transport explosives and firing mechanisms for drilling operations	3	1	D
11268	Handle explosives and firing mechanisms for drilling operations	4	2	D
11269	Transport radioactive sources for drilling operations	3	1	D
11270	Assist with handling radioactive sources on a drilling rig	2	1	D
11271	Prepare for a fishing job on a drilling rig	3	4	D
11272	Use different types of fishing tools on a drilling rig	3	4	D
11273	Assist with the use of different types of fishing tools on a drilling rig	2	1	D
11274	Understand pressure testing tasks during drilling testing and completion	3	2	D
11275	Install a Christmas tree to the well head on a drilling operation	3	2	D
11276	Prepare for, and supervise completion and production testing on a drilling rig	4	10	D
11277	Assist with well stimulation and enhancement operations on a drilling rig	2	1	D
11278	Demonstrate knowledge of completion and production testing on a drilling rig	3	5	D
11279	Install well head equipment on a drilling rig	3	2	D