

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

Subfield	Domain	Id
Petrochemical Industry	Petrochemical – Operation of Vehicles, Crafts, and Equipment	9557-9564, 9580, 9581, 9602
	Petrochemical Cathodic Protection	9575, 9576
	Petrochemical Equipment Installation Maintenance and Repair	9412, 9413
	Petrochemical Operations Communication and Responses	9518, 9521, 9524, 9603, 9604, 9618, 9621-9626, 9629-9631
	Petrochemical Process and Product Management	9486, 9506, 9507, 9519, 9535, 9587-9589, 9591, 9592, 9597, 9601, 9607, 9609, 9611, 9613, 9614, 9616, 9617, 18285, 18286, 18422-18424, 18725, 18733, 19417-19419
	Petrochemical Product Research and Development	9400-9407, 9484
	Petrochemical Product Transmission and Transfer	9553, 9582-9586
	Petrochemical Well and Wellhead Operations	9182, 9529-9534, 9536-9540

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

Date new versions published

February 2009

Planned review date

December 2013

Summary of review and consultation process

The planned review of these unit standards took into account the decision of the Petrochemical Industry Advisory Group to utilise the generic energy and chemical plant qualifications and add strands for specific petrochemical industry competencies replacing petrochemical specific qualifications at levels 3 and 4. This resulted in the expiry of many overlapping unit standards. In November 2006 industry advisors met to determine the scope of the review and determine membership of the review groups for different domains. At the same time they agreed that overlapping unit standards relating to petrochemical product transmission were to be transferred to the gas industry in time for processing as part of the planned review of gas transmission unit standards, and that a correction was required to a domain name.

The review groups met from July to September 2007 and were charged with gathering feedback from key stakeholders and industry confirmation of the changes being proposed to the unit standards. The review took account of the safety needs of the international off-shore oil industry; the concurrent development of energy and chemical plant qualifications; and feedback from assessors, candidates, the gas industry, and providers. During this process unit standards relating to cathodic protection and equipment maintenance and repair were added to those transferred to the gas industry. In considering the ongoing industry demand for the unit standards it was determined that there is no continuing need for *Petrochemical Equipment Installation Maintenance and Repair* unit standards 9412 and 9413 nor for the unit standards in *Petrochemical Product Research and Development* domain. So these two domains will expire. *Petrochemical Well and Wellhead Operations* unit standards will be required because of the future need to maintain the growing number of wellheads in New Zealand.

Main changes resulting from the review

- 30 unit standards were designated expiring because they are no longer required by industry or overlap with other unit standards
- the two domains *Petrochemical Equipment Installation Maintenance and Repair* and *Petrochemical Product Research and Development* were designated expiring
- domain name was corrected to *Petrochemical – Operation of Vehicles, Craft, and Equipment*
- titles, elements, and performance criteria were amended to better reflect outcomes, to clarify requirements, and to maintain consistency across the unit standards
- levels of unit standards 9536 and 9537 decreased and unit standard 9506 increased to better reflect the content
- credits for unit standards 9536, 9537, 9561, 9564, and 9581 decreased and for unit standard 9580 increased
- purpose statements were amended to accommodate changes to elements
- special notes were put in order consistent with the SSB's other unit standards, repetitions were removed, and definitions were added
- assessment parameters were clarified in special notes and redundant phrases were removed from performance criteria
- references and SSB name were updated
- performance criteria were put in logical order
- range statements were amended to clarify assessment requirements.

Unit standards categorised as category D expire at the end of December 2011.

Impact on existing provider accreditations

Current Accreditation for			Accreditation extended to		
Nature of accreditation	Classification	Level	Nature of accreditation	Classification	Level
Domain	Petrochemical – Operation of Vehicles, Crafts, and Equipment	4	Domain	Petrochemical – Operation of Vehicles, Craft, and Equipment	4

Impact on Accreditation and Moderation Action Plan (AMAP)

The remaining content of expiring AMAP 0124 has been transferred to AMAP 0114.

Impact on existing qualifications

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

Affected	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
Not materially affected	The qualification lists a standard that has a new title The qualification lists a standard that has a new classification

The following NZ Extractive Industries Training Organisation qualification is affected by the outcome of this review and will be revised in 2009. The items that generated the *Affected* status are listed in **bold**.

Qualification title	Classification or standard in the qualification
National Certificate in Gas Industry (Gas Transmission) (Level 4) with strands in Pipeline Operation, and Instrumentation and Electrical [Ref: 0979]	9585 9603, 9630 , 18285

The following NZ Extractive Industries Training Organisation qualifications are not materially affected by the changes. They will be updated when they are next reviewed.

Qualification title	Standard in the qualification
National Certificate in Gas Network Operations (Leakage Control) (Level 3) [Ref: 0400]	9575
National Certificate in Gas Industry (Gas Engineering) with strands in Gas Network Operations, Gas Network Planning and Development, and Gas Utilisation [Ref: 0635]	9575
National Certificate in Gas Industry (Gas Transmission) (Level 3) [Ref: 0978]	9553, 9575, 9576, 9609
National Certificate in Gas Industry (Gas Distribution) (Level 2) [Ref: 1020]	9631
National Certificate in Gas Network Construction (Pipelaying) (Level 3) [Ref: 1022]	9575
National Certificate in Gas Network Operations (Level 3) with optional strands in Operations and Maintenance; and Field Auditing [Ref: 1328]	9575, 9576
National Certificate in Energy and Chemical Plant (Process Operation) (Level 2) with optional strands in Petrochemical Industry; Kraft Pulp and Chemical Operations; and Kraft Liquor Evaporation [Ref: 1343]	9621, 19417, 19418
National Certificate in Energy and Chemical Plant (Process Operation) with optional strands in Steam Generation; Turbine Operations; Waste Treatment; Refrigeration; Chemical Continuous Process; Chemical Batch Process; Solid Handling; Petrochemical Field Operations; Petrochemical Control Room Operations; Petrochemical Production Storage; Kraft Cycle Operations; Kraft Bleach and Chemical Operations; and Kraft Pulping and Chemical Plant [Ref: 1344]	9583, 9592, 9607, 9616, 18422, 18725, 19418,

The following qualification is not materially affected by the changes. The standard setting body (SSB) has been advised and it will be updated when it is next reviewed.

Qualification title	Standard in the qualification	SSB Name
National Certificate in Civil Works and Services (Road Opening - Trenching) with optional strands in Electricity Supply, Gas Distribution, and Water Services [Ref: 1000]	9631	InfraTrain New Zealand

Review Categories and changes to classification, title, level and credits

All changes are in **bold**.

Key to review category	
A	Dates changed, but no other changes are made - the new version of the standard carries the same Id and a new version number
B	Changes made, but the overall outcome remains the same - the new version of the standard carries the same Id and a new version number
C	Major changes that necessitate the registration of a replacement standard with a new Id
D	Standard will expire and not be replaced

Subfield Petrochemical Industry

Id	Domain	Title	Level	Credit	Review Category
9559	Petrochemical – Operation of Vehicles, Crafts, and Equipment Petrochemical – Operation of Vehicles, Craft, and Equipment	Sling loads and communicate during crane operations in a petrochemical environment Sling routine loads and communicate during crane operations in a petrochemical workplace	4	3	B
9560	Petrochemical – Operation of Vehicles, Crafts, and Equipment Petrochemical – Operation of Vehicles, Craft, and Equipment	Operate heavy lifting and rigging equipment in a petrochemical environment Operate heavy lifting and rigging equipment in a petrochemical workplace	3	3	B
9561	Petrochemical – Operation of Vehicles, Crafts, and Equipment Petrochemical – Operation of Vehicles, Craft, and Equipment	Manage the lifting and placing of complex loads on a petrochemical off shore installation Manage the lifting and placing of complex loads on a petrochemical off-shore installation	4	4 3	B

Id	Domain	Title	Level	Credit	Review Category
9562	Petrochemical – Operation of Vehicles, Crafts, and Equipment Petrochemical – Operation of Vehicles, Craft, and Equipment	Operate light lifting and rigging equipment in a petrochemical environment Operate light lifting and rigging equipment in a petrochemical workplace	2	2	B
9563	Petrochemical – Operation of Vehicles, Crafts, and Equipment Petrochemical – Operation of Vehicles, Craft, and Equipment	Operate, lift, and place loads with a platform crane on a petrochemical off shore installation Operate, lift, and place loads with a platform crane on a petrochemical off-shore installation	4	5	B
9564	Petrochemical – Operation of Vehicles, Crafts, and Equipment Petrochemical – Operation of Vehicles, Craft, and Equipment	Lift, and place loads on a petrochemical off shore installation and supply boat with a platform crane Lift and place loads between a petrochemical off-shore installation and a supply boat using a platform crane	4	6 5	B
9580	Petrochemical – Operation of Vehicles, Crafts, and Equipment Petrochemical – Operation of Vehicles, Craft, and Equipment	Demonstrate basic helicopter safety in an off shore environment Demonstrate basic helicopter safety in an off-shore petrochemical workplace	4	3 4	B
9581	Petrochemical – Operation of Vehicles, Crafts, and Equipment Petrochemical – Operation of Vehicles, Craft, and Equipment	Administer helicopter landing operations in a petrochemical environment Administer helicopter landing operations on a petrochemical off-shore installation	4	8 4	B
9602	Petrochemical – Operation of Vehicles, Crafts, and Equipment Petrochemical – Operation of Vehicles, Craft, and Equipment	Operate and launch safety marine craft on a petrochemical off shore installation Operate marine safety craft and equipment at a petrochemical off-shore installation	4	5	B

Domain Petrochemical - Operation of Vehicles, Crafts, and Equipment

Id	Title	Level	Credit	Review Category
9557	Operate general service vehicles in a petrochemical environment	2	1	D
9558	Operate specialised service vehicles in a petrochemical environment	3	2	D

Domain Petrochemical Cathodic Protection

Id	Title	Level	Credit	Review Category
9575	Understand the basics of cathodic protection in a petrochemical environment Explain the purpose and application of cathodic protection in a petrochemical workplace	4	2	B
9576	Carry out cathodic protection system monitoring in a petrochemical environment Carry out cathodic protection system monitoring in a petrochemical workplace	4	3	B

Domain Petrochemical Equipment Installation Maintenance and Repair

Id	Title	Level	Credit	Review Category
9412	Maintain and repair electronic flow correctors in a petrochemical environment	4	13	D
9413	Install and commission electronic flow correctors in a petrochemical environment	4	7	D

Domain Petrochemical Operations Communication and Responses

Id	Title	Level	Credit	Review Category
9518	Prepare, write, and issue technical reports in a petrochemical environment	5	5	D
9521	Coordinate the work of a maintenance team in a petrochemical environment Coordinate the work of a maintenance team in a petrochemical workplace	5	12	B
9524	Establish the causes and location of faults in a petrochemical environment Establish the causes and location of reported faults in a petrochemical process at a petrochemical plant	4	5	B
9603	Identify health, safety and environmental policies and procedures in a petrochemical environment	3	5	D
9604	Undertake sea rescue and survival on a petrochemical off shore installation	4	4	D
9618	Use and interpret petrochemical industry documentation	3	3	B

Id	Title	Level	Credit	Review Category
9621	Interpret symbols, signs, and terminology specific to a petrochemical environment Identify, explain, and use petrochemical industry symbols, signs, and terminology	2	2	B
9622	Identify P.R. roles and individual community liaison responsibilities in a petrochemical environment	4	4	D
9623	Operate safety and rescue communication equipment in a petrochemical environment	2	2	D
9624	Produce and review operational procedures in a petrochemical environment	4	6	D
9625	Work safely with others in a petrochemical environment	2	2	D
9626	Coordinate and manage site safety control systems in a petrochemical environment Coordinate and manage site safety control systems in a petrochemical workplace	4	5	B
9629	Operate emergency response equipment in a petrochemical environment Operate emergency response equipment in a petrochemical workplace	3	4	B
9630	Demonstrate knowledge of HAZOP study and QRA in a petrochemical environment	4	4	D
9631	Use personal protective equipment in a petrochemical environment Use personal protection equipment in a petrochemical workplace	2	2	B

Domain Petrochemical Process and Product Management

Id	Title	Level	Credit	Review Category
9486	Identify quality management processes in a petrochemical environment Identify and apply quality management processes in a petrochemical workplace	3	4	B
9506	Carry out laboratory operations in a petrochemical environment Conduct a sample analysis in a petrochemical laboratory	3 4	6 6	B
9507	Use basic laboratory processing equipment under supervision in a petrochemical environment	3	5	D
9519	Work safely in a petrochemical laboratory environment	2	5	D
9535	Conduct satellite shut downs and start ups in a petrochemical environment Conduct satellite shut downs and start ups in a petrochemical workplace	4	5	B

Id	Title	Level	Credit	Review Category
9587	Operate product separation equipment in a petrochemical environment Operate product separation equipment in a petrochemical workplace	4	10	B
9588	Select, use and maintain hand tools in a petrochemical environment	2	3	D
9589	Repair and replace valves in a petrochemical environment Repair and replace valves in a petrochemical workplace	4	4	B
9591	Use hydro testing equipment in a petrochemical environment Use hydro testing equipment in a petrochemical workplace	4	4	B
9592	Evaluate performance of batch process and production equipment in a petrochemical environment Evaluate performance of batch process and production equipment in a petrochemical workplace	3	7	B
9597	Undertake corrosion inspection in a petrochemical environment Undertake corrosion inspection in a petrochemical workplace	4	10	B
9601	Perform process tests and analysis in a petrochemical environment Perform and document routine process tests in a petrochemical workplace	3	4	B
9607	Prepare chemicals for batch production use in a petrochemical environment Prepare chemicals for batch production in a petrochemical workplace	3	3	B
9609	Monitor atmospheric emissions in a petrochemical environment Monitor atmospheric emissions in a petrochemical workplace	3	3	B
9611	Identify and report environmental hazards in a petrochemical environment	3	2	D
9613	Manage environmental situations in a petrochemical environment Manage a major environmental incident in a petrochemical workplace	6	7	B
9614	Monitor effluent water quality in a petrochemical environment	3	3	D
9616	Control emergency and unplanned shut downs in a petrochemical environment Control emergency and unplanned shut downs in a petrochemical workplace	5	12	B

Id	Title	Level	Credit	Review Category
9617	Commission systems in a petrochemical environment Punch list, commission, and optimise new equipment in a system in a petrochemical workplace	4	7	B
18285	Control spills and emissions in a petrochemical environment Control spills and emissions in a petrochemical workplace	4	6	B
18286	Control the disposal of hazardous substances and waste materials in a petrochemical environment Control hazardous substances and waste materials for disposal from a petrochemical workplace	4	7	B
18422	Utilise distributed control systems in a petrochemical environment Utilise a distributed control system in a petrochemical workplace	3	4	B
18423	Demonstrate knowledge of distillation equipment in a petrochemical environment Demonstrate knowledge of distillation equipment in a petrochemical workplace	4	12	B
18424	Isolate and recommission plant in a petrochemical environment	3	4	D
18725	Monitor and analyse processes and respond to deviations in a petrochemical environment Monitor, analyse, and respond to deviations in a petrochemical process	5	12	B
18733	Operate equipment for distillation in a petrochemical environment Operate equipment for distillation in a petrochemical workplace	5	8	B
19417	Demonstrate knowledge of gas testing theory in a petrochemical environment Demonstrate knowledge of gas testing in a petrochemical workplace	2	3	B
19418	Demonstrate knowledge of basic chemistry used in petrochemical environments Demonstrate basic knowledge of chemistry used in a petrochemical workplace	2	4	B
19419	Demonstrate knowledge of basic thermodynamics and instrumentation used in petrochemical environments	2	2	D

Domain Petrochemical Product Research and Development

Id	Title	Level	Credit	Review Category
9400	Develop new product manufacturing procedures in a petrochemical environment	4	12	D

Id	Title	Level	Credit	Review Category
9401	Trial new products in a petrochemical environment	5	7	D
9402	Develop new product acceptance procedures in a petrochemical environment	5	30	D
9403	Use and monitor pilot plant processing equipment in a petrochemical environment	4	9	D
9404	Operate and troubleshoot pilot plant equipment in a petrochemical environment	5	12	D
9405	Manufacture batches of materials in a petrochemical environment	4	10	D
9406	Develop laboratory methods in a petrochemical environment	5	9	D
9407	Generate new product trial documentation in a petrochemical environment	5	6	D
9484	Develop and test new petrochemical products	5	10	D

Domain Petrochemical Product Transmission and Transfer

Id	Title	Level	Credit	Review Category
9553	Inspect pipeline stations in a petrochemical environment Inspect pipeline stations in a petrochemical workplace	3	3	B
9582	Conduct petrochemical road or rail tanker loading activities Conduct road or rail tanker loading activities in a petrochemical workplace	4	3	B
9583	Manage product storage and transfer facilities in a petrochemical environment Manage product storage and transfer facilities in a petrochemical workplace	4	6	B
9584	Conduct wharf and shipping product handling operations in a petrochemical environment Conduct product transfer at a petrochemical marine terminal	4	6	B
9585	Conduct basic pigging activities in a petrochemical environment Conduct pigging activities in a petrochemical pipeline	3	3	B
9586	Transfer petrochemical bulk product by pipeline in a petrochemical environment Transfer petrochemical bulk product by pipeline	3	4	B

Domain Petrochemical Well and Wellhead Operations

Id	Title	Level	Credit	Review Category
9182	Use compressed gas systems and cylinders in a petrochemical environment	3	3	D

Id	Title	Level	Credit	Review Category
9529	Prioritise and optimise well flows in a petrochemical environment Prioritise and optimise well flows at a petrochemical wellhead	4	19	B
9530	Conduct well testing and sampling in a petrochemical environment Conduct well testing and sampling at a petrochemical wellhead	4	4	B
9531	Manage wells and reservoirs in a petrochemical environment	4	7	D
9532	Prepare wellsites for workovers in a petrochemical environment Prepare for workovers at a petrochemical wellhead	5	12	B
9533	Monitor and operate artificial lift equipment in a petrochemical environment Demonstrate knowledge of, and operate, artificial lift equipment to optimise production at a petrochemical wellhead	4	6	B
9534	Undertake well hydro testing in a petrochemical environment Hydro test a petrochemical well	4	3	B
9536	Undertake well head maintenance activities under supervision in a petrochemical environment Undertake petrochemical wellhead maintenance activities under supervision	4 3	5 4	B
9537	Replace and repair wellhead equipment in a petrochemical environment Replace faulty petrochemical wellhead equipment	5 4	11 8	B
9538	Install and operate portable well killing equipment in a petrochemical environment	5	13	D
9539	Undertake well enhancement operations in a petrochemical environment Undertake well enhancement operations at a petrochemical wellhead	4	17	B
9540	Prepare well for wireline work in a petrochemical environment Isolate a petrochemical well and prepare it for wireline work	4	4	B