

National Certificate in Gas Industry (Gas Transmission) (Level 4) with strands in Pipeline Operation, and Instrumentation and Electrical

Level	4
Credits	144 or 162 depending on strand

This qualification is **expiring**. The last date to meet the requirements is 31 December 2012.

Purpose

This national certificate is designed to recognise a range of competencies applicable to people who have demonstrated advanced skills and knowledge required for employment in the gas transmission sector of the gas industry in one of the following specialist areas: Pipeline Operation, or Instrumentation and Electrical.

The qualification recognises the advanced skills and knowledge required for people to safely carry out station operations and easement activities when working on pipeline stations, facilities, and pipeline easements. People awarded with this qualification will be able to work independently or in teams on maintenance and operational activities associated with the safe operation of a gas transmission pipeline system.

The qualification contains optional standards that are not required for the completion of the certificate. However, they may be considered necessary in some employment contexts.

This national certificate builds on the National Certificate in Gas Industry (Gas Transmission) (Level 3) [Ref: 0978].

Replacement Information

This qualification was replaced by the National Certificate in Gas Transmission Operations (Instrumentation and Electrical) (Level 3) [Ref: 1578] and the National Certificate in Gas Transmission Operations (Instrumentation and Electrical) (Level 4) [Ref: 1579].

Special Notes

It is recommended that people seeking award of this qualification have achieved prior award of the National Certificate in Gas Industry (Gas Transmission) (Level 3) [Ref: 0978], or can demonstrate equivalent knowledge and skills.

Credit Range

	Core Compulsory	Pipeline Operation Strand
Level 3 credits	13	11
Level 4 credits	21	117
Minimum totals	34	128
Qualification total with strand	-	162

	Instrumentation and Electrical Strand	Optional
Level 3 credits	88	0-7
Level 4 credits	22	0-78
Minimum totals	110	0
Qualification total with strand	144	0

Requirements for Award of Qualification

Award of NQF Qualifications

Credit gained for a standard may be used only once to meet the requirements of this qualification.

Unit standards and achievement standards that are equivalent in outcome are mutually exclusive for the purpose of award. The table of mutually exclusive standards is provided in section 7 of the New Zealand Qualifications Authority (NZQA) *Rules and Procedures* publications available at <http://www.nzqa.govt.nz/ncea/acrp/index.html>.

Reviewed standards that continue to recognise the same overall outcome are registered as new versions and retain their identification number (ID). Any version of a standard with the same ID may be used to meet qualification requirements that list the ID and/or that specify the past or current classification of the standard.

Summary of Requirements

- Core Compulsory standards

One of the following strands is required

- Pipeline Operation Strand
- Instrumentation and Electrical Strand

Detailed Requirements

Core Compulsory

The following standards are required

Community and Social Services > Community and Workplace Fire and Emergency Management > Workplace Fire and Emergency Response

ID	Title	Level	Credit
16801	Participate in a workplace emergency response team	3	4

Engineering and Technology > Electrical Engineering > Core Electrical

ID	Title	Level	Credit
5929	Demonstrate knowledge of hazardous areas and their electrical requirements	4	3

Engineering and Technology > Gas Industry > Gas Measurement

ID	Title	Level	Credit
12456	Install, maintain, and commission electronic gas flow correctors	4	8

Engineering and Technology > Petrochemical Industry > Petrochemical Operations
Communication and Responses

ID	Title	Level	Credit
9603	Identify health, safety and environmental policies and procedures in a petrochemical environment	3	5
9630	Demonstrate knowledge of HAZOP study and QRA in a petrochemical environment	4	4

Engineering and Technology > Petrochemical Industry > Petrochemical Process and Product Management

ID	Title	Level	Credit
18285	Control spills and emissions in a petrochemical environment	4	6

Engineering and Technology > Petrochemical Industry > Petrochemical Product Transmission and Transfer

ID	Title	Level	Credit
18416	Operate and maintain gas fired water bath heater equipment in a petrochemical environment	3	4

Pipeline Operation Strand

The following standards are required

Engineering and Technology > Gas Industry > Gas Network Operations

ID	Title	Level	Credit
19556	Assemble, install, test, and commission advanced gas pressure reducing and metering station	4	15
19558	Troubleshoot and rectify faults on advanced gas pressure reducing and metering stations	4	34
19559	Perform routine maintenance on advanced gas pressure reducing and metering stations	4	25
19560	Troubleshoot and rectify faults on standard gas pressure reducing and metering stations	4	34

Engineering and Technology > Petrochemical Industry > Petrochemical Product Transmission and Transfer

ID	Title	Level	Credit
9546	Carry out aerial inspection of the pipeline system in a petrochemical environment	4	4
9555	Control erosion and erosion planting on pipelines in a petrochemical environment	3	2

ID	Title	Level	Credit
9585	Conduct basic pigging activities in a petrochemical environment	3	3
18418	Operate and maintain main line valves on a product pipeline in a petrochemical environment	3	3
18419	Operate and maintain gas filtration equipment in a petrochemical environment	3	3

Health > Occupational Health and Safety > Occupational Health and Safety Practice

ID	Title	Level	Credit
17599	Plan a confined space entry	4	5

Instrumentation and Electrical Strand

Meet the requirements of the following set

- Instrumentation and Electrical Strand Compulsory

Instrumentation and Electrical Strand Compulsory

The following standards are required

Engineering and Technology > Industrial Measurement and Control > Industrial Measurement and Control - Maintenance

ID	Title	Level	Credit
2631	Maintain pressure measurement devices	3	10
2635	Maintain temperature measurement devices used in industry	3	10
2637	Maintain flow measurement devices used in industry	3	10
2640	Maintain control valve actuators and positioners	3	5
2648	Maintain density monitoring equipment	4	4
2651	Maintain signal conditioning equipment, recorder, and alarm module	3	6
2652	Maintain smart instruments and loops used in industry	4	2
2656	Maintain electronic or microprocessor based controllers	4	2
2667	Install and maintain pneumatic or electro-pneumatic equipment	3	5
4356	Maintain chromatographs	4	4
4357	Tune or adjust a plant control loop	4	2

Engineering and Technology > Industrial Measurement and Control > Industrial Measurement and Control - Theory

ID	Title	Level	Credit
2630	Demonstrate an understanding of pressure measurement systems used in industry	3	8
2632	Demonstrate an understanding of level measurement systems used in industry	3	4
2634	Demonstrate an understanding of temperature measurement systems used in industry	3	5
2636	Demonstrate an understanding of flow measurement systems used in industry	3	6
2638	Demonstrate an understanding of control valves, actuators, and positioners	3	4
2649	Demonstrate an understanding of signal conditioning equipment, recorders, and alarm modules	3	3
2650	Demonstrate an understanding of smart instruments and loops used in industry	4	2
2663	Demonstrate an understanding of hydraulic control equipment used in industry	3	4
2665	Demonstrate an understanding of instrumentation calibration terminology and standards	3	2
2666	Demonstrate an understanding of pneumatic control equipment used in industry	3	4
2668	Demonstrate an understanding of flame, gas, smoke, and heat detectors	3	2

Engineering and Technology > Petrochemical Industry > Petrochemical Product Transmission and Transfer

ID	Title	Level	Credit
18417	Perform routine maintenance on a metering system in a petrochemical environment	4	6

Optional standards

The following standards are optional

Engineering and Technology > Electrical Engineering > Core Electrical

ID	Title	Level	Credit
5930	Demonstrate knowledge of electrical equipment for use in hazardous areas	4	2

Engineering and Technology > Gas Industry > Gas Network Construction

ID	Title	Level	Credit
10974	Use stopple equipment on steel gas pipes	4	10
10983	Hot tap, test, and drill a steel pipe in a gas distribution network	4	12

Engineering and Technology > Gas Industry > Gas Network Operations

ID	Title	Level	Credit
19552	Stabilise a gas emergency site and deal with a gas-filled building	4	16

Engineering and Technology > Industrial Measurement and Control > Industrial Measurement and Control - Maintenance

ID	Title	Level	Credit
2657	Maintain pneumatic controllers	4	5

Engineering and Technology > Petrochemical Industry > Petrochemical Cathodic Protection

ID	Title	Level	Credit
9578	Carry out a Direct Current Voltage Gradient (DCVG) survey in a petrochemical environment	4	3
9579	Carry out cathodic protection system trouble shooting in a petrochemical environment	4	4

Engineering and Technology > Petrochemical Industry > Petrochemical Product Transmission and Transfer

ID	Title	Level	Credit
9541	Operate an acoustical leak detector in a petrochemical environment	4	2
9545	Construct and maintain cross drains in a petrochemical environment	4	3
9547	Lay culverts in drains on pipeline easements in a petrochemical environment	4	4
9550	Perform basic pipe wrapping in a petrochemical environment	4	3
9551	Assist with intelligent pigging activities in a petrochemical environment	4	4
9569	Operate odorant systems in a petrochemical environment	3	4
9572	Carry out a seminar in a petrochemical environment	4	4
18417	Perform routine maintenance on a metering system in a petrochemical environment	4	6

Manufacturing > Energy and Chemical Plant > Operation of Energy and Chemical Plant

ID	Title	Level	Credit
3053	Operate gas turbines in an energy and chemical environment	3	3

Transition Arrangements

Version 3

Version 3 was issued to indicate that this qualification is expiring.

This qualification was replaced by the National Certificate in Gas Transmission Operations (Instrumentation and Electrical) (Level 3) [Ref: 1578] and the National Certificate in Gas Transmission Operations (Instrumentation and Electrical) (Level 4) [Ref: 1579].

For detailed information see [Review Summaries](#) on the NZQA website.

This qualification contains standards that have been replaced by later standards. The last date for assessments to take place for the expiring standards 2650-2652 and 2656 is December 2010. The last date for assessment for expiring standard 9630 is December 2011. For the purposes of this qualification people who have gained credit for replacement standards are exempt from the requirement to gain credit for the expiring standards (see table below).

Credit for	Exempt from
19341	9630
24884	2651, 2656
24886	2650, 2652

Previous versions of the qualification

Version 2 was issued following review. The classification of the qualification has changed from the *Petrochemical Industry* subfield to the *Gas Industry* subfield. Changes have also been made to the qualification's structure and requirements to reflect the current competencies required by the gas industry, and to update the Standard Setting Body information following the amalgamation of the Gas and Petrochemical Industry Training Organisation with the NZ Extractive Industries Training Organisation.

Changes to structure and content include: title amended to reflect the new classification; purpose statement updated; qualification credit total increased from 128 to 144 or 162 depending on strand; Core compulsory credit requirements increased from 28 to 34; standard 12456 and 18416 transferred from Pipeline Operation, and Instrumentation and Electrical strands to the core compulsory section; standards 3053, 9569, 9578 and 9579 transferred from Pipeline Operation and Instrumentation and Electrical strands to new Optional section; standards 3271 and 17589 removed from the core compulsory section; Pipeline Operation strand credit requirements increased from 100 to 128; standards 9541, 9545, 9547, 9550, 9551, 9569, 9572, 10974, 10983, and 18417 transferred from the Pipeline Operation strand to the Optional section; standard 9583 removed from Pipeline Operation strand; standard 19556 added to Pipeline Operation strand; Instrumentation and Electrical strand requirements now all compulsory, and credit requirements increased from 100 to 110; standards 2657 and 5930 transferred from the Instrumentation and Electrical strand to the Optional section; standard 2655 removed from the Instrumentation and Electrical strand; standard 19552 added to the Optional section; and qualification pathway diagram updated.

People currently working towards version 1 of this qualification may either complete the requirements for that version or transfer their results to version 2.

Any candidate who feels that they have been disadvantaged by this review should contact NZ Extractive Industries Training Organisation at the address below.

This qualification contains standards that replace earlier standards. For the purposes of this qualification, people who have gained credit for the expiring standards are exempt from the requirement to gain credit for the replacement standards – see table below.

Credit for	Exempt from
9612, 9627	18285
12499, 12500	19552
12512, 12515	19560

Version 1 was registered in December 2002 and was one of five qualifications [Refs: 0977-0981] for the petrochemical industry that replaced:

- National Certificate in Petrochemical Industry (Level 2) with optional strands in Drilling, and Production [Ref: 0494]
- National Certificate in Petrochemical Industry (Level 3) with optional strands in Drilling, Laboratory Operations, Production, and Transmission [Ref: 0495]
- National Certificate in Petrochemical Industry (Level 4) with optional strands in Drilling, Laboratory Operations, Production, Supervision and Quality, and Transmission [Ref: 0496].

There were significant differences between the replacement qualifications and the originals and no direct one-to-one relationship was established. The transition for the replaced qualifications expired in December 2003.

NQF Registration Information

Process	Version	Date	Last Date for Assessment
Registration	1	December 2002	December 2005
Review	2	June 2004	December 2012
Review	3	July 2010	December 2012

Standard Setting Body

NZ Extractive Industries Training Organisation
 PO Box 2623
 Christchurch 8140

Telephone 03 964 4710
 Facsimile 03 964 4714
 Email info@exito.org.nz
 Website <http://www.exito.org.nz>

Other standard setting bodies whose standards are included in the qualification

ElectroTechnology Industry Training Organisation
 Fire and Rescue Services Industry Training Organisation
 New Zealand Industry Training Organisation

Certification

This certificate will display the logos of the NZQA, the NZ Extractive Industries Training Organisation and the accredited organisation.

Classification

This qualification is classified according to the NQF classification system and the New Zealand Standard Classification of Education (NZSCED) system as specified below.

NQF Classification		NZSCED	
Code	Description	Code	Description
345	Engineering and Technology > Gas Industry	039999	Engineering and Related Technologies > Other Engineering and Related Technologies > Engineering and Related Technologies not elsewhere classified

Quality Management Systems

Providers and Industry Training Organisations must be accredited by a recognised Quality Assurance Body before they can register credits from assessment against standards. Accredited providers and Industry Training Organisations assessing against standards must engage with the moderation system that applies to those standards. Accreditation requirements and the moderation system are outlined in the associated Accreditation and Moderation Action Plan (AMAP) for each standard.

Appendix 1

Gas Industry Qualification Pathway

