

Title	Hot tap a steel pipe in a gas network		
Level	5	Credits	15

Purpose	People credited with this unit standard are able to: <ul style="list-style-type: none"> – demonstrate knowledge of procedures, documentation, and equipment for hot tapping on steel pipes; – prepare for and perform hot tapping on steel pipes; and – complete reporting and documentation procedures.
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Classification	Gas Industry > Gas Network Construction
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Available grade	Achieved
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Guidance Information

- 1 Evidence presented for assessment against this unit standard must be consistent with safe working practices and be in accordance with applicable manufacturer specifications, company procedures, and legislative requirements.
- 2 Legislation, standards, and guidelines relevant to this unit standard include:
 - Health and Safety at Work Act 2015;
 - Resource Management Act 1991;
 - AS/NZS 4645.1: 2018 *Gas distribution networks – Part 1: Network management*;
 - AS/NZS 4645.2: 2018 *Gas distribution networks – Part 2: Steel pipe systems*;
 - AS/NZS 2885.2: 2020 *Pipelines – Gas and liquid petroleum Part 2: Welding*; available from www.standards.govt.nz;
 - AS 2885.1-2018 *Pipelines – Gas and liquid petroleum Design and construction*;
 - AS 2885.3-2022 *Pipelines – Gas and liquid petroleum Operation and maintenance*; available from www.standards.org.au;
 - *Excavation Safety: Good Practice Guidelines July 2016* available from www.worksafe.govt.nz;
 and any subsequent amendments and replacements.
- 3 Definitions

Company procedures mean the documented methods for performing work activities, and include health and safety, operational, environmental, and quality management requirements. They may refer to legislation, regulations, guidelines, standard operating procedures, manuals, codes of practice, or policy statements.

Dummy run means removing and resetting the completion plug prior to the drilling operation.

Hot tapping for this unit standard excludes the installation of the connection fitting to be hot tapped.

Outcomes and performance criteria

Outcome 1

Demonstrate knowledge of company procedures, documentation, and equipment for hot tapping on steel pipes.

Performance criteria

1.1 Documentation and company procedures for hot tapping on steel pipes are interpreted, and described in terms of purpose.

Range documentation must include – hot tapping equipment manufacturer operating manuals; documentation may include – network technical standard, standard operating procedure, safe work procedure, work instruction, non-routine operating procedure, job hazard analysis; evidence of three documents is required.

1.2 Job documentation and instructions are confirmed for accuracy.

Range site location, contingency plan, pipe specifications, work permit, cutter size and depth specifications, connection fitting integrity test results.

1.3 Potential environmental and safety hazards are described in terms of their controls.

Range hazards include – work in excavations, other utilities, stored energy, gas atmosphere, electrical, lifting and handling, noise, traffic, public.

1.4 Hot tapping equipment and components are described in terms of their function.

Range hot tap machine, hot tap cutter, drive motor, fitting adaptors, seals, completion plug.

1.5 Potential risks of incorrect application and operation of equipment, and the steps to avoid them are described.

Range over drilling, loss of coupon, under drilling, pipework strain, gas leakage, inadequate internal pipework cleaning, pneumatic release.

Outcome 2

Prepare for and perform hot tapping on steel pipes.

Performance criteria

2.1 Safety and environmental risks are identified and controlled.

- 2.2 Pipe, equipment, and fittings are prepared, handled, and positioned in accordance with company procedures.
- Range hot tap machine integrity and condition checks, cutter size checks, drilling length checks, electrical continuity, pipe supports.
- 2.3 Hot tap machine is attached to the connection fitting and pressure tested in accordance with company procedures.
- 2.4 Hot tap equipment is operated.
- Range dummy runs, drilling, coupon retrieval, internal pipework cleaning, depressurising of machine, removal of machine, fitting of completion plug.
- 2.5 Connection fitting is capped, and leak tested for integrity.

Outcome 3

Complete reporting and documentation procedures.

Performance criteria

- 3.1 Records and documents are completed, and information is communicated to internal and external parties where relevant.
- Range may include – as-built records, test results, special conditions, completion notice, additional work, coupon details, photographs; evidence of four records or documents is required.

Planned review date	31 December 2027
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Status information and last date for assessment for superseded versions

Process	Version	Date	Last Date for Assessment
Registration	1	19 June 1997	31 December 2018
Revision	2	3 August 2000	31 December 2018
Review	3	22 October 2002	31 December 2018
Review	4	20 November 2006	31 December 2020
Review	5	17 August 2017	31 December 2025
Revision	6	30 August 2018	31 December 2025
Review	7	24 November 2022	N/A

Consent and Moderation Requirements (CMR) reference	0014
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This CMR can be accessed at <http://www.nzqa.govt.nz/framework/search/index.do>.

Comments on this unit standard

Please contact Waihangā Ara Rau Construction and Infrastructure Workforce Development Council at qualifications@WaihangāAraRau.nz if you wish to suggest changes to the content of this unit standard.