Office of the Technical Regulator

Gas Inspectorate 2026 Roadshow

March – August 2026

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Government of South Australia
Department for Energy and Mining

Topics

1. Consumer Piping
    a) Emergency Isolation for Multilayer Piping
    b) Piping in concealed locations
    c) Open Ends
    d) Testing for Gas Tightness
2. Commercial Kitchens
    a) Isolation Requirements
    b) Installing commercial catering appliances
3. Commissioning
4. Type B gas appliances
5. Certificates of Compliance
6. 2027 Gas Regulations and AS/NZS5601.1 Revision
7. Audit Feedback

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Emergency Isolation for multilayer piping

Requirements for residential Class 1a buildings

AS/NZS5601.1:2022 Clause 5.2.11- “for a Class 1a building in Australia, where there is no *fire safety system*, a device that automatically shuts off the gas supply if gas tightness is adversely affected by a fire emergency event shall be provided. The device shall be installed in a readily accessible location as close as practicable to the point of supply and prior to any multilayered pipe”.

The installation is to be fitted with a device that will shut off gas supply if the gas tightness is adversely affected by fire.

Protection must be provided with either an excess flow valve (EFV) or an under pressure shut off valve (UPSO)

These devices need to be installed up stream of multilayer pipe.

1. Be accessible *and*
2. Installed as close as possible to the gas supply point.

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Emergency Isolation for multilayer piping

The good, the bad and the ugly

Emergency Isolation for multilayer piping

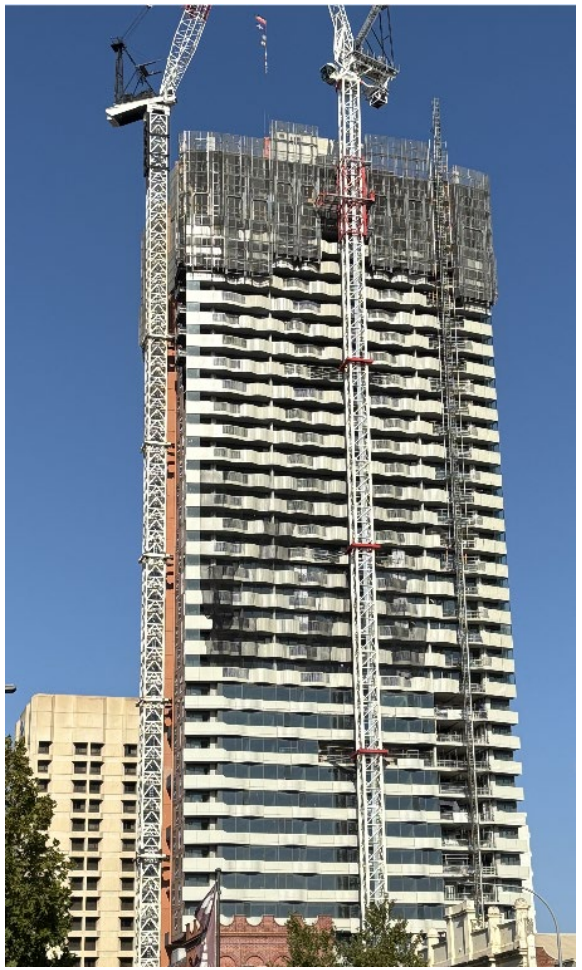
For commercial/industrial buildings/restaurants/high rise buildings

AS/NZS5601.1:2022 Clause 5.2.11 requires that where multilayer pipe is used as part of consumer piping in buildings that are NOT Class 1a buildings then the installation shall be fitted with a system that will shut off the gas supply when the fire safety system operates.

1. Protection must be provided with a single, class 1, safety shut-off valve that incorporates a pressure-proving system before restoration of the gas supply.

2. Be located upstream of multilayer pipe and as close as possible to the gas supply point and be readily accessible.

3. Integrated into the building fire management system.



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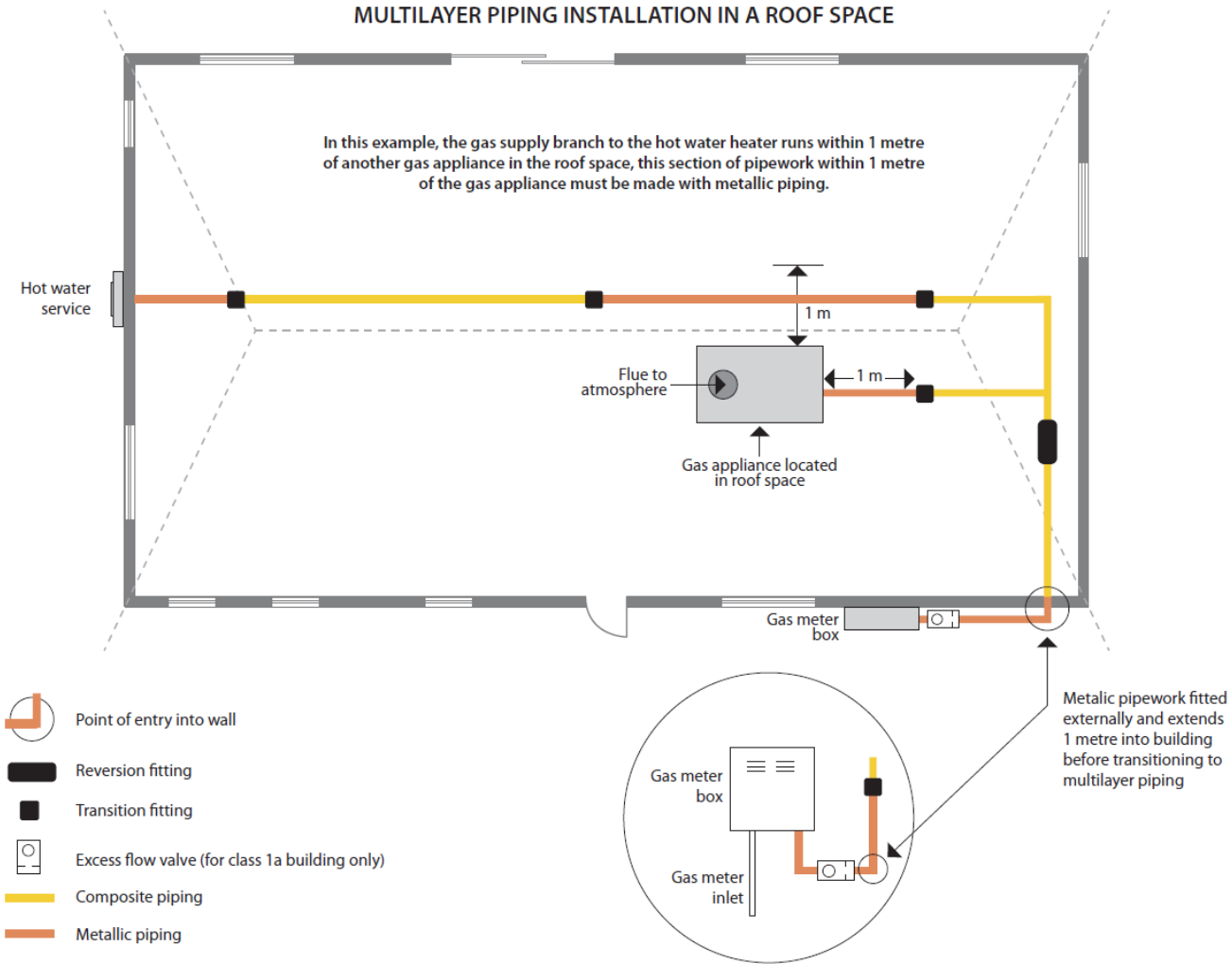
Multilayer piping – limitations

Clause 6.6.1 – Restrictions on appliance connection

Multilayer piping must transition into metallic piping when within 1m of a gas appliance (1m exclusion zone around gas appliances from gas multilayer pipework.)



Piping in concealed locations

AS/NZS5601.1 2022 Clause 5.3.8 requires that where consumer piping is to be installed in a concealed location (excluding underground or embedded in concrete), then the requirements of Table 5.3.8 shall apply.

What is considered a permanent joint?
A joint that is not intended to, and cannot readily, be disassembled.

Examples are brazed, welded, crimped and hydraulically or mechanically compressed joints. (Clause 1.3.86)

A gas fitter plans to install consumer piping operating at 14kPa in accessible roof space.

What is required for this to be compliant?

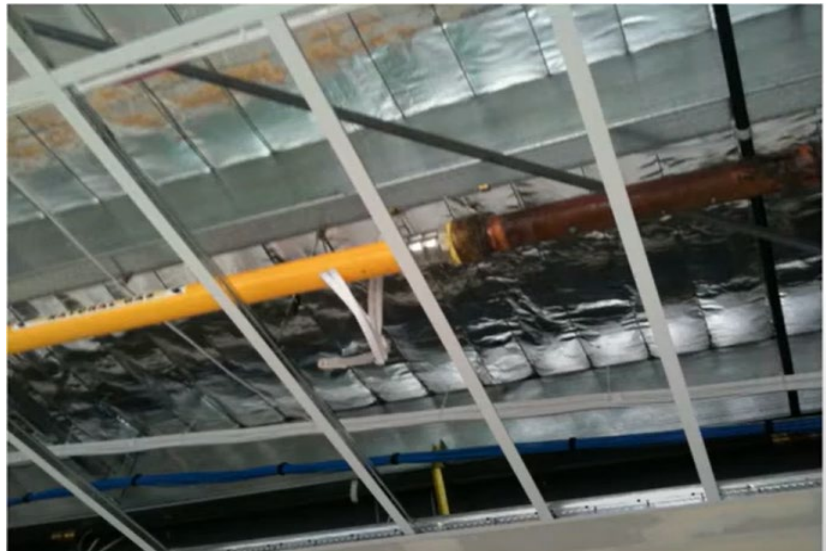


Figure 1

Table 5.3.8 — Piping in concealed location

Operating pressure	Accessibility[a]	Is ventilation required?[b]	Required pipe materials and jointing methods
Up to and including 7 kPa	*Accessible*	Yes	Pipes and jointing as per Table 4.2
	Inaccessible	Yes	Pipes as per Table 4.2 Joints to be kept to a minimum
	Accessible or inaccessible	No	Pipe as per Table 4.2 Joints to be *permanent joints* and kept to a minimum
Exceeding 7 kPa	*Accessible*	Yes	Pipes as per Table 4.2 Joints to be *permanent joints* and kept to a minimum
	Inaccessible	Not to be installed	

[a] In this Table *accessible* means access can be gained by, for example, a ceiling access opening or sub-floor door except that in a multi-*storey* building it means able to be viewed at each floor.

[b] For ventilation requirements, see Clause 5.3.12.

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Piping in concealed locations

Ventilation Requirements

Where consumer piping is to be installed in a concealed location and the requirements Table 5.3.8 indicates ventilation is required, all the following shall apply:

1. Ventilation openings shall be provided at each end of a duct or sleeve
2. For ceiling spaces, ventilation openings shall be positioned relative to each other to provide a flow of air across the entire void.
3. The openings shall be in a safe location
4. Each opening shall have a free ventilation area that conforms to Table 5.3.12

Table 5.3.12 — Ventilation for concealed piping

Cross-sectional area of void, duct or sleeve m^2	Minimum free ventilation area of each opening
Not exceeding 0.05	Full cross-sectional area
Exceeding 0.05 but not exceeding 7.5	0.05 m^2
Exceeding 7.5	0.006 × cross-sectional area of void, duct or sleeve in m^2

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Piping in concealed locations

Ventilation Requirements

Roof Area

- Roof Size: **10m x 8m**
- Cross Sectional Area: **10 x 8 ÷ 2 = 40m²**
- 40m² **exceeds 7.5m²**

Required Ventilation

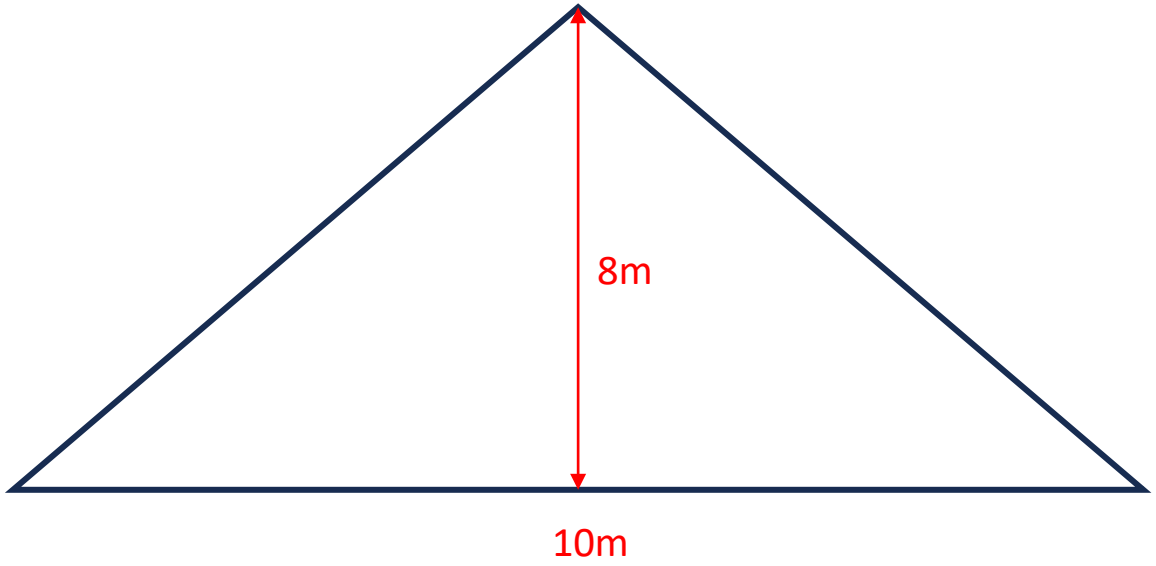
- Formula: **0.006 x 40**
- Required area: **0.24m² (equivalent to 2400cm²)**

Vent Openings

- Minimum free ventilation area of each opening: **0.24m² (2400cm²)**
- Each opening size: **60cm x 40cm**

Table 5.3.12 — Ventilation for concealed piping

Cross-sectional area of void, duct or sleeve m^2	Minimum free ventilation area of each opening
Not exceeding 0.05	Full cross-sectional area
Exceeding 0.05 but not exceeding 7.5	0.05 m^2
Exceeding 7.5	0.006 × cross-sectional area of void, duct or sleeve in m^2



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Sealing of open ends

Clause 3.4 –requires *all* open ends to be sealed while work is in progress or when outlets are providing for appliance installation and/or future connections . The closing of an isolation valve does not satisfy this requirement unless it is sealed with a cap or plug.

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Sealing of open ends

The dangers of not sealing an isolation valve

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Testing for gas tightness

A pressure test shall be carried out on a gas installation and associated equipment in accordance with Appendix E, AS/NZS5601.1:2022 when:

1. A new gas installation is installed
2. Alteration, extension or repair is made to gas pipework.
3. Pipework or appliances are disconnected and/or reconnected

Reminders:

1. Test at the correct pressure
2. Test for the required duration (5 min for every 30 L)
3. Use suitable, calibrated test instruments

Table E.10 — Test instruments

Instrument	Test pressure range	Pipe volume	Limitations	Test time
Bubble leak detector	Up to 3 kPa	Up to 0.03 m^3 (30 L)	As *gas* will be the test medium, only suitable for existing installations	5 min
Manometer (water gauge)	Up to 10 kPa	Up to 0.3 m^3 (300 L)	Only suitable for low *pressures*	5 min for each 30 L
Manometer (digital read-out)	Up to 200 kPa	Up to 0.3 m^3 (300 L)	Range of instrument and means of connection	5 min for each 30 L
Differential tester	Up to 700 kPa	Any	No *pressure* indication. Needs to be part of a kit in conjunction with a Bourdon gauge	5 min
Single column compensated gauge	Up to 70 kPa	Up to 0.3 m^3	Instrument range to be selected to suit application	5 min
Electronic transducer *pressure* gauge/recorder with data or paper tape output	Up to 700 kPa	Any	Used where a record of the test is required	5 min for each 30 L

Table D.4.1 — Approximate volume of pipe

Pipe material and Standard	Approximate volume of pipe, L/m Nominal size DN															
	15	16	18	20	23	25	32	40	50	63	65	75	80	90	100	110
Copper — NZS 3501	0.13	N/A	N/A	0.28	N/A	0.50	0.79	1.14	2.02	N/A	3.16	N/A	4.55	6.20	8.10	N/A
Copper— AS 1432 (*Type B*)	0.09	N/A	0.15	0.22	N/A	0.41	0.67	0.99	1.83	N/A	2.92	N/A	4.17	5.75	7.58	N/A
Steel — AS 1074 medium	0.21	N/A	N/A	0.37	N/A	0.59	1.02	1.39	2.21	N/A	3.72	N/A	5.13	N/A	8.68	N/A
PVC-HI — AS ISO 6993.1	0.25	N/A	N/A	0.39	N/A	0.66	1.10	1.44	2.26	N/A	3.72	N/A	5.19	6.78	8.59	N/A
Polyethylene — AS/NZS 4130 series 2 SDR 11	N/A	0.07	N/A	0.15	N/A	0.28	0.52	0.82	1.29	2.04	N/A	2.92	N/A	4.19	N/A	6.28
Polyamide — AS 2944.1 SDR 25	N/A	0.15	0.20	0.25	0.34	0.41	0.67	1.05	1.65	2.60	N/A	3.71	N/A	5.32	N/A	7.95

NOTE 1 All calculations use the mean internal diameter for the specified class of pipe.

NOTE 2 For multilayer (composite) pipe volumes, refer to *manufacturer's specifications*.

NOTE 3 N/A = not applicable; this *nominal size* does not exist in the relevant Standard.

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Isolation Requirements

Commercial Kitchens

Clause 5.2.9.2 requires that where more than one commercial catering appliance is to be installed then either one of the following is required:

1. Isolation Valve that isolates all appliances that is readily accessible and clearly identified
2. A readily accessible e-stop connected to a solenoid valve with key operated reset function.

Installing Commercial Catering Equipment

Clause 6.10.2.7 Connecting free-standing commercial cookers with a hose assembly.

- Appliance be designed and certified for hose assembly
- Only Class B or Class D hose assemblies to be used
- Hose installed in U shape configuration, with both connection points facing downwards
- Hose restraint fitted, no longer than 80% of the hose assembly
- Stoppers installed to prevent the appliances from being pushed up against gas components and hoses
- With the appliance in the installed position, no part of the hose assembly shall be **less than 50mm from the floor or ground.**

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Commissioning

Clause 6.11.2 – Type A Appliances

Clause 6.11.4 requires that appliance commissioning be carried out after all equipment that may affect appliance operation (e.g. extraction systems) has been installed. Commissioning shall take full account of the manufacturer's instructions and all aspects of the gas installation that could influence appliance performance.

Type B Gas Appliances

Clause 6.11.2

Before connecting the gas supply to a Type B gas appliance, the requirements of AS3814 – Industrial and commercial gas-fired appliances must be met.

What is a Type B gas appliance?

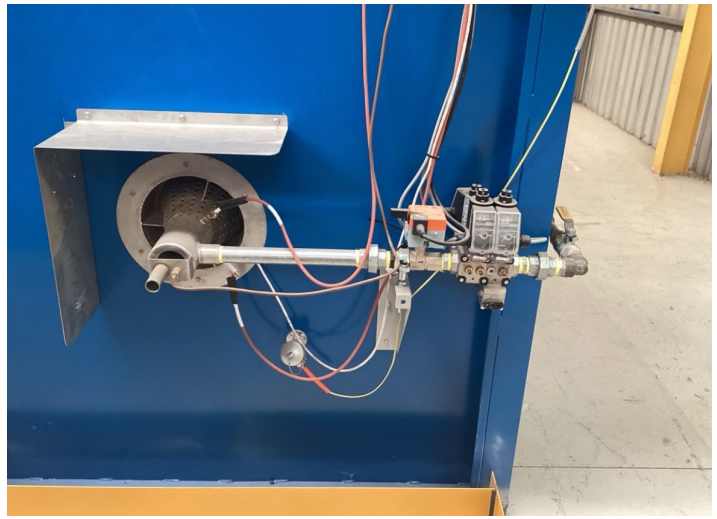
An appliance with a gas consumption in excess of 10mj/hr, for which a certification scheme does not exist (clause 1.3.2.2)

Examples include:

- Boilers, furnaces and industrial ovens
- Custom-built equipment
- Appliance that may appear Type A in nature, such as commercial pizza ovens, pottery kilns and coffee roasters

If in Doubt:

- **Do not** connect the gas supply
- Contact the OTR for clarification



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Certificates of Compliance

Gas Act 1997 Section 56(2) - "If work on a gas installation or proposed gas installation is personally carried out by a registered gas fitting worker under the *Plumbers, Gas Fitters and Electricians Act 1995*, the person to whom this section applies must ensure that the requirements of the regulations as to notification and certificates of compliance are complied with."

Maximum penalty: $5 000.

Expiation fee: $315.

Electronic Certificates of Compliance shall be:

- Issued within 30 days of completion of work
- Completed by the appropriately licensed Gas fitting worker who carried out the work
- Certified by an appropriately licensed Gas fitting Contractor
- Scope of Work – include details of work completed

eCoC to be completed and issued to the owner/client within 30 days of completion of work

Provide details of work performed
Insufficient information in the example

Mandatory requirement in the *Gas Act 1997* to commission and test for soundness following installation

Gas Worker who completed work to sign off

Appropriately licenced and registered contractor to complete and sign off.

GAS CERTIFICATE OF COMPLIANCE

under the Gas Act 1997

Government of South Australia

Certificate Number: G0101187

Owner/Client name	John Doe		
Installation Address	11 WAYMOUTH STREET, ADELAIDE, SA 5000		
Premises Type	House/Domestic		
Date of Work	Started: 10/02/2026	Finished: 10/02/2026	Submitted: 10/02/2026

SECTION A - JOB DETAILS

Work Category	Work Type	Work Performed	
New Install	Consumer Pipework	Copper	Gas Supply: NG Metering Pressure: 2.75

SECTION B - WARNING : Owners and operators of gas installations must take reasonable steps to ensure that the gas installation is compliant, safe and safely operated to meet the requirements of the *Gas Act 1997*.

Faults identified and brought to Customer's Attention (Mention if any)	
Have you placed defect tag/s on the faults identified?	N/A
Risk Assessment	None Observed

GAS FITTER: I certify that I have carried out the following tests/checks on the gas installation work detailed in this certificate and the results satisfy the requirements of the *Gas Act 1997* and Regulations, or I have placed a defect tag on those faults noted in the 'Faults Identified' field.

Test for soundness	No
Commissioned to manufacturer's requirements	No
Name	T1 Tester
Licence Number	PGE127757
Date Certified	10/02/2026

CONTRACTOR/AUTHORISED PERSON: I certify that gas fitting work is in compliance with the *Gas Act 1997* and Regulations. Also where applicable, I am satisfied that the auxiliary electrical work and/or water plumbing work detailed above meets the requirements of the *Electricity Act 1996* and Regulations and/or *Water Industry Act 2012* including Regulations and Standards.

Contractor Name	T1 Tester		
Business Name	T Tester Pty Ltd		
Licence Number	PGE127757		
Phone/Mobile	0411111112	Email	qatestemail77@gmail.com
Address	11 WAYMOUTH STREET, ADELAIDE, SA 5000		
Date Certified	10/02/2026		

The Technical Regulator does not endorse the contents of this electronic Certificate of Compliance (eCoC). The Technical Regulator does not accept responsibility for the truth or accuracy of the contents of this eCoC and will not be held liable for any loss or damage suffered in consequence of reliance upon the contents of this eCoC.

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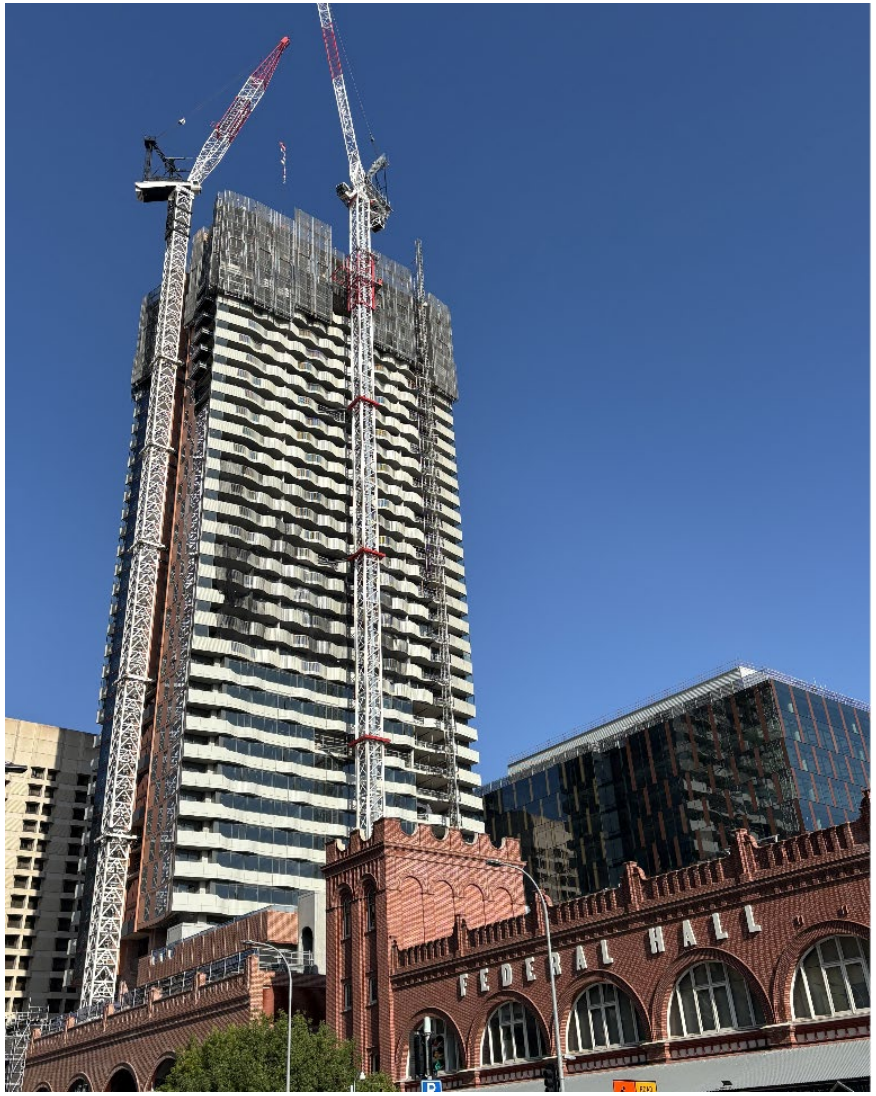
2027 Gas Regulations and AS/NZS5601.1

Gas Installations

- AS/NZS 5601.1 – Gas Installations update to be released later in the year
- South Australia Gas Regulations revision proposed inclusions
    - Defining complex installations requiring acceptance of the OTR prior to commencing
        - Elevated Pressure (above 3kPa) LP gas installations located internally
        - Installations that include a Type B gas appliance
        - High Rise Buildings
        - Elevated Pressure (above 3kPa) Natural Gas installations



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Audit Feedback

Clause 6.1.2 requires that Type A gas appliances be certified. Look for the hallmark certification label from one of the conformity assessment bodies and Gas Compliance Mark fitted to Type A appliances before installing/servicing.

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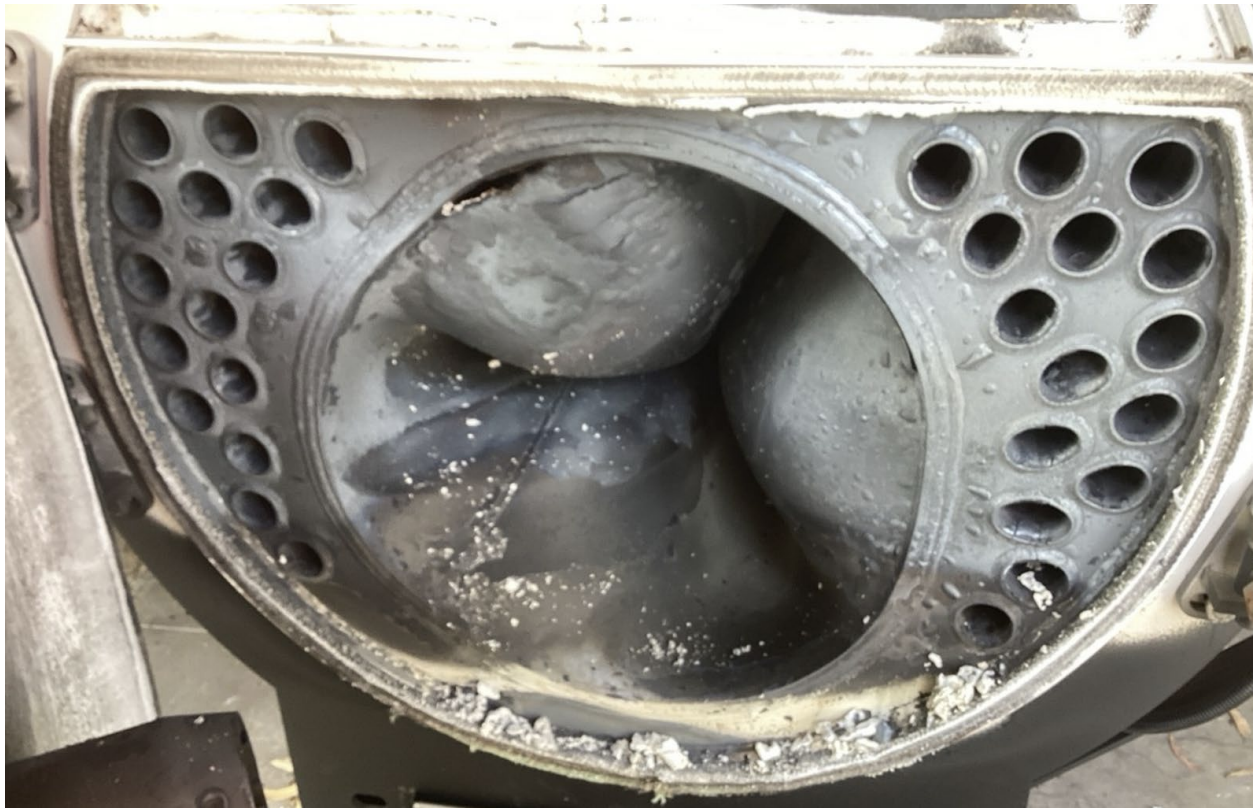
Audit Feedback

Commissioning – Clause 5.11

Catastrophic failure occurred when water level sensor failure allowed the new steam boiler to operate without any water.



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Audit Feedback

Clause 6.2.2 requires gas appliances to be installed in accordance with the requirements of the Standard and the manufacturers' instructions.

Audit Feedback

Clause 5.9.6 requires a manual isolation valve and a union fitted at the inlet end of the hose assembly

Clause 6.7.4 requires all flue gases to be exhausted to the outside atmosphere

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Audit Feedback

Clause 5.3.11

Consumer piping installed in the ground beneath a building *shall* not operate at pressures above 7 kPa.

Before

After

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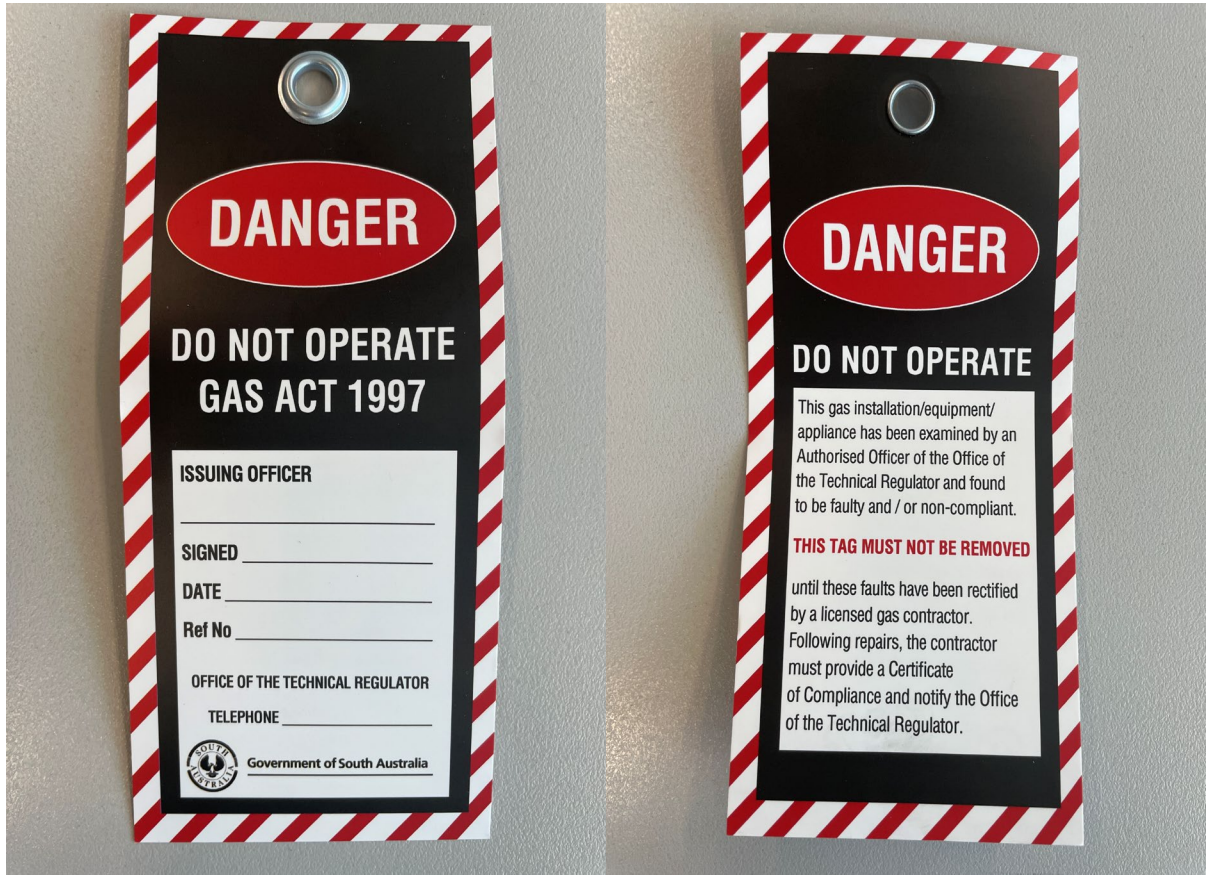
Audit Feedback

Danger Tags

If an inspector from the OTR has isolated the gas supply to an installation and placed a danger tag on it, if you have been engaged to rectify and eliminate the DANGER, you need to contact the OTR and advise of the rectification work. An eCoC must be submitted immediately outlining full works carried out and photos must be attached. Only then will you be instructed by the inspector that the tag can be removed if satisfied with the rectification.

Removal of a DANGER tag without contacting the issuing officer is an offence under the *Gas Act 1997* Section 68 – Disconnection of the gas supply.



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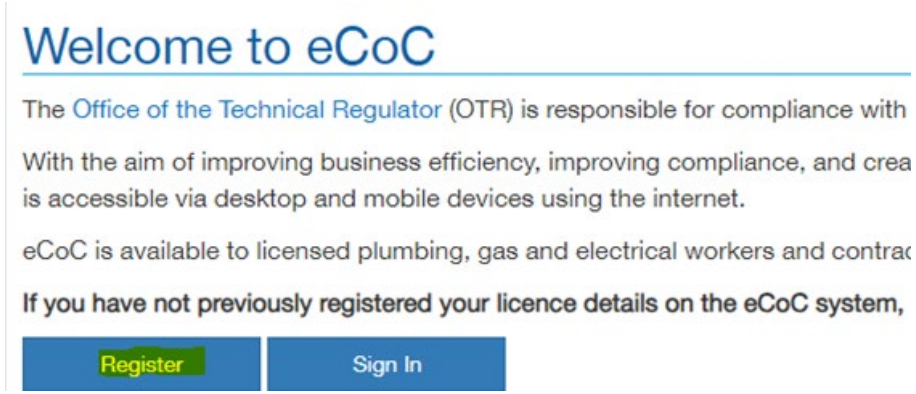
https://ecoc.otr.sa.gov.au



Note: You will require the PGE number and the expiration date of your licence in order to complete the registration.

If you encounter any difficulty, please call 08 8429 3394.

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