



GAS HEATER MAINTENANCE AND INSPECTION POLICY

Version 2 | August 2018

PURPOSE OF THE POLICY

This Policy is designed to ensure that all gas heaters in Victorian schools:

- promote thermal comfort for students, staff and visitors while posing no risk to health and safety
- meet current Victorian Building Authority Standards, and
- comply with Energy Safety Victoria recommendations and requirements.

RELEVANT LEGISLATION AND REGULATION

- [Education and Training Reform Act 2006](#)
- [Occupational Health and Safety Act 2004](#)
- [Building Act 1993](#) (concerning licensing and registration of plumbers)
- [National Construction Code](#)
- [Gas Safety Act 1997](#)
- [Gas Safety \(Gas Installation\) Regulations 2008](#)

This policy aligns with the following school asset lifecycle stage:

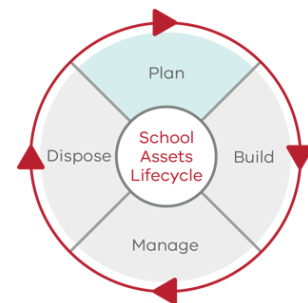


Figure 1: School Asset Cycle

POLICY STATEMENT

This policy outlines:

- the requirement for immediate cessation of use and safety inspection of all Vulcan Heritage and Pyrox Heritage open flue gas heaters for carbon monoxide leakage, and decommissioning of any heater found to be leaking carbon monoxide
- the immediate requirement for a safety inspection of all other ESV-registered open flue gas heaters for carbon monoxide leakage, if they have not been tested in 2018, and cessation of use of any heaters found to be leaking carbon monoxide until rectification works are completed by an approved gasfitter or the heater is decommissioned
- a biennial cycle for all gas heater (including gas space heater, central heater, boiler and water heater) inspections, routine testing, services and cleans
- the type of inspections required by specialist gas plumbers
- notices to regulatory bodies where sufficient rectification work is warranted on open flue heaters.

RATIONALE

Energy Safe Victoria (ESV), the independent technical regulator responsible for electricity

and gas safety in Victoria, has issued a safety alert for two 'open flued' gas heaters and raised concerns about carbon monoxide levels in rooms heated by open flued gas heaters.

A safety response is required by all schools with installed and operating 'open flue' gas heaters.

Schools must establish a biennial (every two years) response to ensure all gas heaters are in good working order and safe for use in schools.

Victorian government schools are responsible for the ongoing maintenance of site infrastructure and buildings and are provided with funding through the Student Resource Package (SRP) specifically for this purpose.

SRP funding includes costs for routine inspection and maintenance of all gas heaters on school sites. Where a school has insufficient funds, satisfies criteria which includes a minimum cost of \$5,000, and a situation is critical, it may apply for assistance from the Emergency Maintenance Program.

IMMEDIATE SAFETY RESPONSE

Vulcan Heritage and Pyrox Heritage heaters

School's immediate safety response should be to:

- check whether the school has either a Vulcan Heritage or a Pyrox Heritage heater. ESV has issued a safety alert on these heritage heaters, which have been



withdrawn from sale and their production ceased.

- if your school has either heritage heater type, turn them off immediately, organise for a full check and service by a suitably qualified gasfitter (see details below)
- only resume use of the heater/s if approval is obtained from the gasfitter
- do not operate exhaust fans at the same time as a Vulcan or Pyrox Heritage gas heater.

Other Registered Open Flue Gas Heaters

- check if the school has a heater/s certified as described on the [Open Flued by Energy Safe Victoria](#) web page
- have any identified heaters immediately tested for CO leakage by a suitably qualified gas plumber (see details below) if they have not already been tested in 2018. Only resume use of the heater if and when approval has been received from the gasfitter
- do not operate exhaust fans at the same time as your gas heater.

BIENNIAL INSPECTION AND MAINTENANCE [EVERY TWO YEARS]

Where gas heaters are installed, they must be inspected, serviced and cleaned on a biennial cycle.

This biennial gas heater inspection and maintenance must form part of a school's asset management program or plan.

Testing must comply with:

- Gas Information Sheet No. 37, Carbon Monoxide Measuring Equipment, Energy Safe Victoria
- Gas Information Sheet No. 38 Using Carbon Monoxide Detection Equipment to Check Gas Appliances for Spillage, Energy Safe Victoria.

If a leakage is detected or the appliance is considered unsafe following testing, the gasfitter is legally obliged to repair any faults or leakages, if possible, and report the 'incident' and work to ESV by phone or email so that an ESV representative can check and record the gasfitter's work.

If the value of the rectification work is \$750 or greater, the gasfitter must also lodge a

Statement of Compliance (Schedule 11) with the Victorian Building Authority (VBA) and provide it to the principal.

Any appliance and required work must comply with the ESV Gas Information Sheet No. 33 Gas installation notification and be completed prior to the heater being used again.

TYPES OF TESTING

Two types of tests are required for open flued gas heaters.

The first is a test for a negative pressure environment with exhaust fans operating,

See Gas Information Sheet 38.

If a negative pressure environment is detected the heater must be turned off until additional ventilation is installed,

The second is to test for CO spillage with the heater and exhaust fans operating.

See Gas Information Sheet 38.

If any carbon monoxide leakage is detected at higher than background readings for the room after 5 minutes of operation the heater must be turned off until any leakages are repaired and/or additional ventilation is installed,

HEATER REPLACEMENT

Factors influencing or determining heater replacement decisions:

- heaters are subject to safety recalls, or
- fail both CO tests and heater replacement is recommended by the gasfitter, or
- heating upgrades are envisaged in the short term
- the Building Quality Standards Handbook (VQSH), (VSB, May 2018) notes that: 'The VSB's intention is to phase out reliance on gas in schools and this should be considered when determining the preferred method of heating'
- if for some reason phasing out gas heating is not practical or possible, and a gas heater is replaced or upgraded with another gas appliance your qualified gas plumber must submit a Gas Application to ESV before beginning installation work
- on completion of installation of a new gas heater your qualified gas plumber must obtain a signed Compliance Notice



(Schedule 11) of the Gas Application on completion of the installation prior to commissioning the appliance, and

- copies of all Gas Applications and Compliance Notices are to be maintained as an integral part of the schools asset management system documentation.

ONLY USE QUALIFIED PROFESSIONALS

Immediate and biennial inspection and maintenance is to be conducted by a qualified gas plumber who is:

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- qualified for Type B gas appliance servicing where the appliance's gas consumption is in excess of 10MJ/h, or
- qualified for Type A in the case of domestic or light commercial appliances (gas consumption less than 10MJ/h), and
- who has undertaken VBA Carbon Monoxide (CO) training.

ADDITIONAL INFORMATION

What is Carbon Monoxide?

CO is a colourless, odourless and tasteless gas resulting from the incomplete combustion of hydrocarbon fuels.

What are Open Flued Gas Heaters?

Internal gas heaters and appliances are designed to operate with one of two common types of flue:

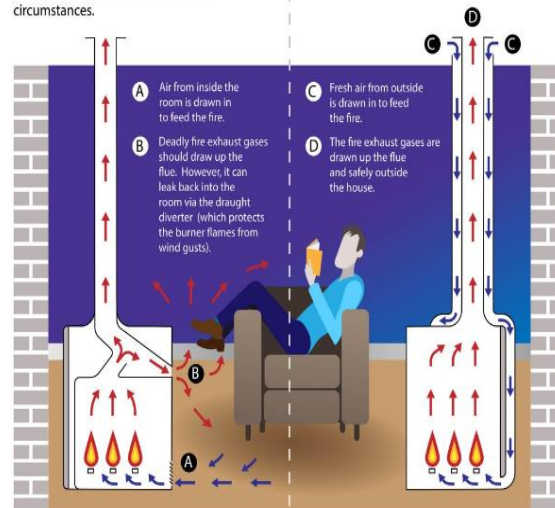
- an open flue, which is fitted through the ceiling and roof, or
- a room sealed flue, which is usually fitted through the wall.

OPEN FLUE HEATERS

Draw air from the room to feed the fire. Inadequate ventilation and use of exhaust fans can draw carbon monoxide (and other exhaust gases) back into the room in certain circumstances.

ROOM SEALED HEATERS

Draw air from outside the house to feed the fire. As they are sealed, exhaust gases are drawn up the flue and dispersed outside.



What are the Potential Health Risks?

CO binds strongly with haemoglobin and cytochromes, preventing oxygen transport and its use in the tissues. This can result in end-organ damage.

Signs and Symptoms of carbon monoxide leakage can include: headaches, malaise, nausea, and dizziness.

Gradual cognitive deterioration and reduction in functional capacity have been reported in low-grade chronic exposure.

At highest risk are older people, patients with comorbidities, children, pregnant women and their unborn babies

Deaths have occurred in circumstances where heaters are dirty, old and unserviced. When heaters operate in a sealed environment the risk of CO spillage will increase. Smaller, poorly ventilated dwellings are at a greater risk.

Operational Safety Tips

(adapted from ESV recommendations)

- **Don't leave the heater on overnight, for extended periods, or when not required.**
- **Don't operate exhaust fans at the same time as the heater.** This includes nearby toilet or bathroom fans which can create a 'negative pressure' effect where carbon



monoxide that should escape out the flue is drawn into internal spaces.

- **Consider back-up measures such as a carbon monoxide alarm:** carbon monoxide alarms can be a useful back-up precaution, but should not be considered a substitute for the proper installation and maintenance of gas heating appliances. See more on carbon monoxide alarms [here](#).
- **Ensure you have adequate ventilation:** while it is not necessary to have windows and doors wide open on a cold day, ventilation is important to ensure your heater operates correctly.
- **Consider replacing old appliances.** Compulsory replacement of all whole of government open flue heaters is currently being considered.

Replacement and Future Heating

The Building Quality Standards Handbook (BQSH) provides advice to support school decision-making on safe and sustainable heating.

Refer to the Utilities and Associated Infrastructure (5.2) and Mechanical Services (5.8), particularly Heating (5.81), sections in the BQSH for guidance on replacement or new heating solutions.

CONTACTS

Victorian School Building Authority

1800 896 950 or

vsba@edumail.vic.gov.au

Energy Safety Victoria (gas)

1800 652 563 or

gastechicalenquiry@energysafe.vic.gov.au

Schools are encouraged to contact their regional office to discuss any related questions or issues.

In a crisis situation where there is an immediate hazard to students and staff, schools must contact Emergency Services on 000 and DET Security Services Unit on 9589 6266.

Schools may also contact Cushman & Wakefield on 1300 133 468 should they require assistance for makesafe works.

All rectification works undertaken must comply with the *National Construction Code*, the Department of Education and Training's *Building Quality Standards Handbook*, and

Victorian Government purchasing and procurement standards.

For all immediate makesafe issues, schools should:

- contact Cushman & Wakefield on 1300 133 468; and
- report the incident on edusafe.

RELATED DOCUMENTS

- [VSBA Building Quality Standards Handbook](#)
- [VSBA Heating and Cooling Policy](#)
- [VSBA Emergency Maintenance Policy](#)
- [National Construction Code](#)
- [Gas Information Sheet No. 33](#) Gas installation notification
- [Gas Information Sheet No. 37](#), Carbon Monoxide Measuring Equipment, Energy Safe Victoria
- [Gas Information Sheet No. 38](#) is about using Carbon Monoxide Detection Equipment to Check Gas Appliances for Spillage, Energy Safe Victoria
- Energy Safe Victoria's [Gas Information Sheet No. 44](#) addresses carbon monoxide safe working levels,
- [Gas Information Sheet No 36: Carbon monoxide alarms for domestic use](#)
- [Beware carbon monoxide silent killer](#), is an overview of this risk on the ESV website.

KEY WORDS

gas heater, open flue, open flued, safety alert, certified open flued space heaters, gasfitter, carbon monoxide

