Fire Rescue Victoria

Guideline No. 28

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In-line metering of water used for fire protection systems

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1. PURPOSE

The purpose of this guideline is to inform industry of the Fire Rescue Victoria's position on the installation of in-line water meters to any *fire protection system* water supply for buildings designed prior to the adoption of the National Construction 2022 (NCC 2022), which took effect on 1 May 2023.

Note: For buildings designed after the adoption of the NCC 2022, *Australian Standard AS2419.1:2021, Fire hydrant installations, Part 1: System design, installation and commissioning*, permits the design and installation of in-line water meters, as-of-right.

2. SCOPE

This guideline is only applicable to Victorian projects where the design of building commenced prior to the adoption of the NCC 2022 and where the relevant water authority requires the *fire protection system* water supply to be provided with an in-line water meter.

Note: Industry will be aware that *Australian Standard AS2419.1:2005, Fire hydrant installations, Part 1: System design, installation and commissioning*, specifically indicated that in-line meters shall not be used.

3. DEFINITIONS

Design team means the professional group comprising one or more of the architectural designer, fire protection system design engineer, builder, and owner.

Fire protection system means a fire hydrant system, an automatic fire sprinkler system or a combined fire hydrant and sprinkler system.

4. EQUIPMENT RECOMMENDATIONS FOR NEW AND EXISTING SYSTEMS

Where the relevant water authority requires the *fire protection system* water supply to be provided with an in-line water meter, the Fire Rescue Commissioner requires the

following design and equipment additions to be implemented by the design team and builder.

(a) The hydraulic losses associated with the installation of the in-line water meter(s) within the proposed *fire protection system*, must be considered by the design team and kept as low as reasonably practicable;

(b) The in-line water meter(s) must not reduce the *fire protection system* pressure at the most disadvantaged hydrant outlet(s) to a level that is below the minimum design pressure;

(c) To ensure that the *fire protection system* remains reliable and failsafe, where the elements comprising the in-line metering system are corroded, damaged, jammed or blocked, the design head loss of the in-line meter must not be exceeded at any time during the fire protection system's operation, due to a failure of the in-line meter.

5. COMMISSIONING AND MAINTENANCE

All fixed metering equipment, once installed, must be subject to a commissioning test to ensure that it does not provide any disadvantage to the performance of the *fire protection system* in accordance with the relevant Australian Standards.

The installation of an in-line meter must not reduce the reliability or increase the downtime of the system that would otherwise be achieved, including during periods of programmed maintenance or emergency repair. This includes servicing, calibration, repair or replacement of the in-line metering device.

Note: In accordance with Regulation 129 of the Building Regulations 2018 (the Regulations), where an in-line meter is proposed to be installed to serve a building's *fire protection system*, report and consent from the Fire Rescue Commissioner must be obtained in relation to the application for a building permit.

6. REFERENCES AND FURTHER INFORMATION

- Australian Standard AS2419.1:2005, Fire hydrant installations, Part 1: System design, installation and commissioning.
- Australian Standard AS2419.1:2021, Fire hydrant installations, Part 1: System design, installation and commissioning.
- Building Regulations 2018