

Phone: +61 (0)7 5455 5148, Mobile: 0409 399 190, Email:

QFRS INTERPRETATIONS AND GUIDELINES

Fire and Security Consulting Services (FSCS) is often consulted regarding the likely interpretation of parts of the Building Code of Australia or Australian Standards by QFRS.

Whilst a phone call to your QFRS Community Safety Office may settle this, they also have interpretations on their web site (<https://www.fire.qld.gov.au/buildingsafety/>). For convenience, this paper summarises that information. However readers should note that interpretations and references may change from time to time and they should consult the QFRS web site for up to date information.

Fire Hydrant Systems for Buildings with Fire Compartments in Excess of 2000m².

The *Building Code of Australia* (Part E1.3) requires fire hydrant systems to be installed in accordance with *Australian Standard 2419.1 - 2005*.

This Standard specifies that the fire hydrant system design must meet the operational requirements of the attending fire service.

QFRS requires boosted on-site hydrants where a single street hydrant doesn't cover a fire compartment over 2000m² in size.

Booster systems incorporate a site-plan showing the location of all on-site hydrants. This allows the attending fire service to most effectively deploy resources immediately.

Hydrant and Water Supply Requirements for Developments outside the Standard QFRS Response Time.

The Building code of Australia (E1.3) required the installation of a fire hydrant system to serve a building having a total floor area greater than 500m² and where a fire brigade is available to attend a building fire. QFRS interprets the words "where a fire brigade is available to attend" to refer to a situation where:

1. A fire brigade is staffed by:
 1. QFRS permanent fire-fighters, or
 2. QFRS Auxiliary fire-fighters, or
 3. A combination of (i) and (ii), or
 4. Fire-fighters from a private fire service who are trained in structural fire fighting techniques and have a pumping appliance available (example - Hamilton Island), and
2. Following fire service notification, this fire brigade can arrive at the site of the fire within:
 1. 30 minutes for class 5,6,7,8 or 9b buildings greater than 500m² and up to 1000m²; or
 2. 40 minutes for a class 5, 6, 7, 8, or 9b buildings greater than 1000m²; or
 3. 40 minutes for a class 2, 3, 9a or 9c building greater than 500m².

Where a fire hydrant system is required to be installed to serve a building with a total floor area greater than 500m² and where a fire brigade is available to attend as determined by the QFRS interpretation above, then the water supply requirements for hydrant systems as specified in *Australian Standards 2419.1* must be met.

Alternatively, consideration could be given to adopting an Alternative Solution approach.

Physical Protection of Pillar Hydrants.

QFRS will not accept hydrant systems mounted on, passed through or fixed to external tilt-up panel walls in non-sprinkler protected buildings.

If external fire hydrants are to be positioned less than 10 metres from the building it protects, then they must be safeguarded by a minimum of 90/90/90 fire-resistant shielding construction, in accordance with *Australian Standards 2419.1 Clause 3.2.2.2 (e)*.

If not already provided, QFRS will request written confirmation from a competent person that the shielding construction achieves the required FRL from both sides and does not rely on any supporting structural elements that do not achieve at least the same FRL as the shielding construction itself.

QFRS requires external hydrants to be protected by bollard/s where they may be damaged by vehicles.

Manual Shut-Down Mechanism on Diesel Fire Pump Sets.

QFRS requires a manually operated shutdown device mounted on the engine which returns automatically to the start position after use, due to:

1. Operational needs (EP1.3) – crews having difficulties shutting down motors.
2. The fuel isolation valve required to be installed on the outlet from the tank must be locked in the open position (S 9.3.3.3), and is therefore is not readily usable.
3. The standard is a minimum and is silent on an engine mounted facility.

Main Stop Valves for Residential Sprinklers Systems in Class 9c Buildings.

Where "Booster Connections" are installed for a Residential Sprinkler System protecting an Aged Care Building (class 9c), QFRS requires the Main Stop Valve to be fitted with a monitoring device which is permanently connected with a direct data link or other approved monitoring system to a fire station or fire station dispatch centre.

Design of Natural Ventilation Systems.

QFRS advises that translucent sheets are not acceptable as a means of providing permanent openings at roof level in a natural smoke venting system. QFRS considers ridge vents an acceptable means of providing permanent openings at roof level.

The QFRS also advises that open-able roller doors are not acceptable as a means of providing permanent or readily open-able low level openings for make-up air. The QFRS considers permanently open ventilation grilles or slots in roller doors, or fixed open grilles in walls, to be acceptable means of providing make-up air for a natural smoke venting system.

Provision of Block Plans and Location Diagrams.

Australian Standard 2419.1 – 2005 states that Block Plans must be 'fade and water resistant'.

The QFRS requires Block Plans for hydrant and sprinkler booster cabinets, sprinkler valve rooms and zone diagrams for Fire Alarm Systems to be:

- Etched, engraved or printed on metal or plastic that is suitable for installation in an outdoor location (paper enclosed within a plastic or laminated cover is not acceptable).
 - A minimum of A3 in size.
 - Mechanically secured in the requiring location.
 - Correctly orientated to the building/site.
- Compliant with all of the other requirements of Australian Standard 2419.1- 2005 including the features identified on the plan.

Adequate Fire Safety Systems in Marinas

The QFRS is identified as an advice agency under the *Sustainable Planning Regulations 2009*, for operational work made assessable under the Act, that is:

1. Tidal work; and
2. Involves a marina, as defined under the Transport Operations (Marine Pollution) Regulation 1995, with more than 6 vessel berths.

Where the QFRS advice is sought on the assessment and inspection of fire safety systems in marinas, refer to these [Guidelines](#).

This Guideline is based on *Australian Standard 3962 – 2001: Guidelines for Design of Marinas*.

Assessment of Building Fit-Outs

Any building work or tenancy fit-outs that may impact the performance of the Special Fire Services (SFS) to the extent nominated in Schedule 8 of the *Sustainable Planning Regulation 2009* should be referred to the QFRS.

If there is an alternative solution in place for a building that is undergoing a partial fit-out, then that part of the building must be assessed by the Building Certifier and the QFRS.

I trust that this information is helpful.

Prepared by:

Richard A Foster

Dip Mech Eng; Dip Mar Eng; MSFPE

Fire Safety Engineer,

Principal – Fire and Security Consulting Services

FIRE AND SECURITY CONSULTING SERVICES
ABN 67 166 244 105

Rich Foster
RPEQ 7753 M.E. Aust. SFS
MSFPE Dip. Mech Eng Dip Mar Eng
OFRS Accredited Fire Safety Advisor

**INDUSTRIAL COMMERCIAL
RESIDENTIAL MARINE**

PRINCIPAL
17 McKenna Court
Noosaville
Queensland 4566
Australia
Phone: +61 (0) 7 5455 5148
Mobile: +61 0409 399 190
Email: rafoster@bigpond.net.au

FIRE ENGINEERING
FIRE SYSTEMS DESIGN
PROJECT MANAGEMENT
DOCUMENTATION & COST CONTROL
RISK & HAZARD ASSESSMENT
COMPLIANCE INSPECTIONS
REGULATORY RESEARCH & ADVICE
PRODUCT SOURCING
OPERATION & TRAINING MANUALS



Board of
Professional Engineers
Queensland Government

**Certificate of Registration as a
Registered Professional Engineer of Queensland**

Richard Anthony Foster RPEQ: 07753
Area: Mechanical
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