



The Fire Safety Matters newsletter provides industry stakeholders with the Department of Fire and Emergency Services (DFES) Built Environment Branch (BEB) interpretations or concerns of the codes and standards used for the design of building fire safety systems and DFES Operational Procedures.

## Autumn Message

Welcome to the autumn edition of the Fire Safety Matters newsletter.

The past quarter has seen the level of building development continuing strongly in West Australia and with it, the use of fire safety performance (alternative) solutions in submissions to DFES. The new Perth Stadium being one of a number of large scale developments.

As a result the BEB has employed two additional Fire Safety Engineers who join existing staff which now includes three trained Building Surveyors.

In this newsletter the topics of fire safety system maintenance, submission document requirements and the DFES's presentation at the recent Australian Tunnel Safety and Fire Protection Conference are discussed.

If you have any questions or feedback please don't hesitate to email us at [bebadmin@dfes.wa.gov.au](mailto:bebadmin@dfes.wa.gov.au)

## BEB Management



Artist's impression of Perth Stadium (image courtesy of [www.getthebiggerpicture.wa.gov.au](http://www.getthebiggerpicture.wa.gov.au))

## Fire Safety System Maintenance

At a recent incident, a four-storey mixed-class building, consisting of a basement car park, ground floor office and multi-level residential provided another example of poor fire safety system maintenance.

In the early hours of the morning, firefighters were alerted by 000 to a structure fire. The fire had started in a stolen car abandoned within the basement car park. The fire spread to an adjacent car and up the connected lift shaft and into the apartment level corridors. Evacuation was not possible for all occupants.

Upon arrival, firefighters boosted the hydrant system; however the hydrant booster assembly failed immediately.

Following the fire being extinguished, firefighters identified that the Fire Indicator Panel (FIP) was in isolation and that the Building Occupant Warning System did not operate.

Further investigations by the on-call Building Fire Safety Officer uncovered

that the strata agency displayed a significant lack of understanding of the type of maintenance required and who should be completing it. The booster system had not been maintained and the fire detection system had been put in isolate by one of the building occupants at some time prior to the fire.

Information gathered out of this incident, for all stakeholders to consider:

1. Become educated in the importance to life safety of installed fire safety systems.
2. Know who is performing your fire safety systems servicing.
3. Know what they are doing and when.

DFES recommends using qualified personnel to perform the servicing of all installed fire safety systems within the building and that these personnel follow Australian Standard 1851.



The property Fire Indicator panel.

## Tunnel Safety and Fire Protection Conference February 2016

At the 2016 Australian Tunnel Safety, DFES BEB was invited to present and discuss its experiences with planning and commissioning tunnel structures, involving both rail and road.

Tunnels are dynamic structures that have many variables affecting design, construction and operation.

The fire safety and tunnel industry must refer and consult with standards and guidelines to achieve best practice. However these shouldn't restrict innovation in design, construction and operation methods.

The presentation highlighted:

- The importance of early consultation with fire services and their operational needs.
- Importance of learning each stakeholder's capacity and capability.
- The need to ensure stakeholder discussions are had during the design stage for the planned use of any new technology.

Key operational areas for fire services remain the same for both road and rail tunnels:

- Immediate brigade notification.
- Practical brigade access.
- Accessible/effective water supply.
- Effective/reliable smoke management system.

The tunnel landscape in Western Australia appears destined to increase. All relevant stakeholders will face innovation challenges.

This is an opportunity for building industry stakeholders to continue to strengthen relationships and to understand the risks across all emergency hazards inclusive of Fire, Flood and Earthquake.



Artist's impression of Forrestfield Airport Link (image courtesy of [www.getthebiggerpicture.wa.gov.au](http://www.getthebiggerpicture.wa.gov.au))

## Submission Documentation and DFES Operational Requirements

For the last quarter, the percentage of building submissions to DFES containing performance solutions continued to grow, now reaching approximately 65%.

When these performance solutions result in differences of opinion between DFES and the building surveyors and fire safety engineer, the differences are often due to variations in the level of conservatism being employed.

Where DFES believes that inadequate firefighting water supplies are being proposed, then these differences in opinion may become more pronounced. Lack of access to firefighting water directly affects DFES Operational Requirements and will be a concern.

At an incident, firefighters perform a dynamic risk assessment of the situation and its potential to escalate. Factors considered include occupant evacuation, occupant survival rate and the fires growth potential.

Before committing the fire crew to combat the fire internally and/or perform search and rescue, this assessment will include; what fire safety systems exist and are they

working effectively. For example, there is an expectation that there will be internal hydrants within a five storey building and it will have compliant flows and pressure, providing coverage to all areas of a floor. It is also expected that a building of this size will also have a booster system and usually pumps and tanks. This expectation is based upon the National Construction Codes BCA Volume 1 and the referred standards.

At the document submission stage to DFES, the detailed plans of any required fire hydrant systems, and the receipt of a recent flow and pressures test report (within six months) will be required to confirm compliance with the code and standards.

DFES will always be concerned when water supplies are marginal and will request that provisions be made for securing adequate supplies in the future.

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