STANDARD OPERATING PROCEDURE

SAFETY Everyone. Everywhere. Every day

FIRE MANAGEMENT

DOC ID	PRO376	VERSION	1
DOC OWNER	Tom Foster	ACTIVE DATE	03/12/2013

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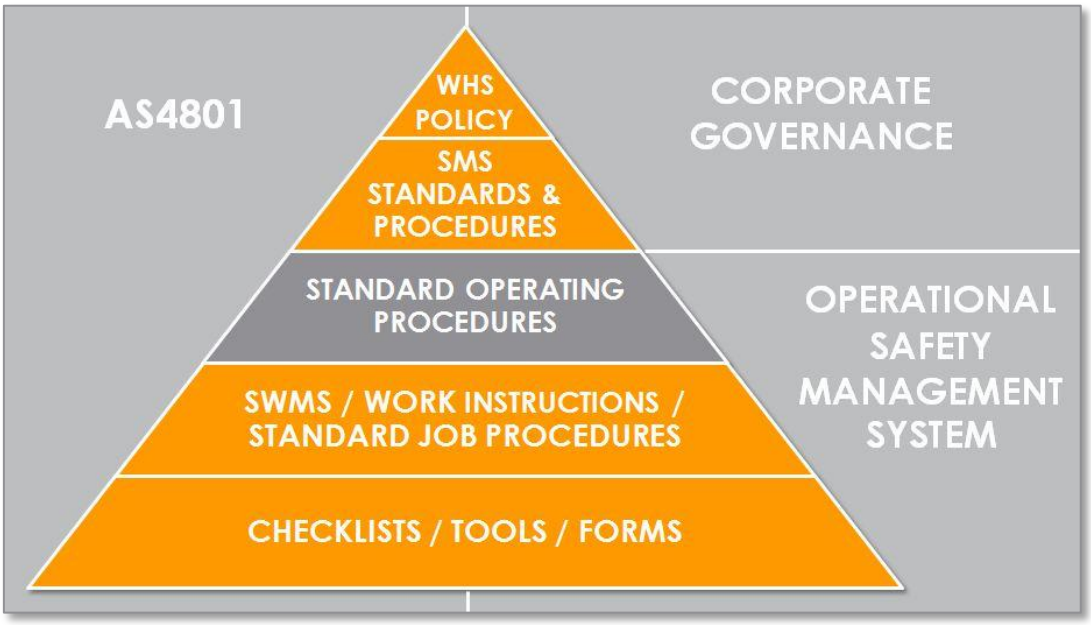
1. SMS DOCUMENT HIERARCHY



2. PURPOSE

This standard operating procedure (SOP) establishes the requirements for the safe management of fire prevention, detection and mitigation at QUU workplaces and sites. In particular it:

- Sets out the requirements and procedures for protection of people and assets against fire in all areas under the control of QUU.
- Details the risk assessment process and compliance requirements to eliminate or minimise potential fatalities, injuries and incidents arising from risks related to unplanned or uncontrolled fire.

3. SCOPE

This standard operating procedure (SOP) applies to all of the QUU staff, workforce, including contractors and other persons on QUU-controlled worksites in the event of fire related emergency situations.

4. DEFINITIONS AND ACRONYMS

Emergency: An event that arises internally, or from external sources, which may adversely affect the occupants or visitors within the organisation, and which requires an immediate response.

Evacuation Diagram: for a building, means a diagram, in an understandable form, of the building showing the fire safety reference points.

Evacuation Response: taking action to effectively contain and resolve an emergency.

Emergency Evacuation Team: collective term used for QUU appointed team to action an emergency evacuation; WHS Advisor, Fire Safety Advisor, Chief Fire Warden, Communications Officer, Area Warden, Warden and First Aid Officer.

EMO: acronym used for Environmental Management Officer.

Environment: natural environment i.e. air, surface water, groundwater, soil, flora and fauna.

Environmental Hazard: the risk of damage to the environment, for example air pollution, water pollution, noise nuisance, dust nuisance, odour nuisance, and radioactivity.

Evacuation Sign: for a building, means a sign stating the procedures for safely evacuating the building, or the part of the building in which the sign is displayed, in the event of a fire or hazardous materials emergency.

Fire Safety Advisor: means a person who is appointed by the occupier of the building under Section 34 of the *Building Fire Safety Regulations 2008*.

Fire Wardens: collective term used for QUU appointed Chief Fire Wardens, Deputy Chief Fire Wardens, Area Wardens and Fire Wardens.

HSR: acronym used for Health and Safety Representative.

Manager: as per QUU naming conventions, the Manager who has direct responsibility for the activity being performed or the area the activity is occurring in.

Officer: as per section 9 of the *Corporations Act 2001 (Cth)* is a person who makes, or participates in making decisions that affect the whole, or a substantial part, of the organisation's activities. Specific to QUU, a QUU officer has been defined as Board Members; Chief Executive Officer (CEO); Executive Leadership Team Members; Operational General Managers.

Project / Contract Manager: a QUU employed representative who engages, controls or defines the scope of work to be performed by a contractor, this includes persons who supervise, monitor, evaluates and/or administers the contractual arrangements. This could be a single person or group of persons depending on nature of contract and particular circumstances. The contract manager may delegate certain of these functions to another QUU employed representative.

QFRS: Queensland Fire and Rescue Service.

QUU Leased Site: those sites leased from external agencies.

QUU Owned Site: sites owned by and listed on QUU's asset register.

SOP: Standard Operating Procedure.

Supervisor: term used for any QUU employee who acts or is appointed as a Supervisor, Coordinator or Team Leader within QUU.

WHS: work health and safety.

Worker: employees, contractors, subcontractors, outworkers, apprentices and trainees, work experience students, volunteers and PCBUs who are individuals if they perform work for the business.

5. ROLES AND RESPONSIBILITIES

Refer to the QUU **WHS Emergency Response and Preparedness Procedure (PRO365)** for overarching responsibility and accountabilities relevant to this SOP. Outlined below are responsibilities specific to operational fire management requirements at all QUU workplaces and controlled sites.

5.1 QUU EXECUTIVE

QUU Executive and Senior Management (CEO, ELT, General Managers – Officer and Non-Officer Appointed) are responsible for overseeing and ensuring the implementation of the requirements of this SOP and related procedures within their respective functional areas. This includes ensuring all sites are suitably risk assessed and have appropriate fire safety protection systems resourced and installed at the time of either purchase or design.

5.2 MANAGERS

Managers in all operational areas and QUU worksites shall ensure that the risk of fire is minimised through the following controls:

- The requirements of this SOP and related procedures e.g. **WHS Emergency Response and Preparedness Procedure (PRO365)** are followed in all areas of responsibility.
- Relationship is established and liaison with the local Queensland Fire and Rescue Service (QFRS) periodically occurs, to affirm contacts and emergency response capabilities and requirements.
- The ChemAlert database is maintained and current.
- All required work area / equipment / building inspections, including the fire safety components therein, are completed thoroughly by suitably trained and competent persons, in a timely manner.
- Scheduling and coordinating the inspection and maintenance of portable/fixed fire safety equipment such as fire extinguishers, hose reels, emergency showers and face/eye wash stations etc as per the site annual maintenance plan.

- Fire safety system and related installations are routinely inspected and maintained with any non-compliances (i.e. items deemed out of service or impaired) managed in accordance with relevant legislative and Australian Standard requirements.
- Records and registers are held on site and within TRIM as required by QUU's SMS and *Building Fire Safety Regulations 2008* requirements.

5.3 SUPERVISORS

Supervisors and Team Leaders in all operational areas and QUU worksites are responsible for ensuring that the following is undertaken to minimise the risk of fire:

- The requirements of this SOP and related procedures e.g. **WHS Emergency Response and Preparedness Procedure (PRO365)** are implemented and followed.
- All workers are familiarised with the relevant parts of this SOP.
- A register of emergency fire fighting and response / rescue equipment is maintained and held at site.
- Daily pre-start meetings are conducted for all staff as per the **WHS Communication and Consultation Procedure (PRO361).**
- Any changes or impairments to fire management arrangements are managed and communicated to all staff and relevant stakeholders within their areas of responsibility.
- Liaising with neighbours and other stakeholders (e.g. QFRS, Rural Fire Service) to implement actions to reduce the fire risk on QUU worksites. For instance ensuring:
    - Maintenance of fire breaks around the site.
    - Slashing / mowing / poison treatment of grassed and vegetation areas on site.
    - Correct waste disposal, adequate cleaning / housekeeping and associated activities.
- All required work area / equipment / building inspections, including the fire safety components therein, are completed thoroughly by suitably trained and competent persons, in a timely manner.
- Fire safety system and related installations are routinely inspected and maintained as per the site annual maintenance plan with any non-compliances (i.e. items deemed out of service or impaired) managed in accordance with relevant legislative and Australian Standard requirements.
- Records and registers are held on site and within TRIM as required by QUU's SMS and *Building Fire Safety Regulations 2008* requirements.

5.4 FIRE WARDENS (EMERGENCY EVACUATION TEAM)

Further to the roles and responsibilities of QUU Chief Fire Wardens, Deputy Chief Fire Wardens, Area Wardens and Fire Wardens (Fire Wardens) outlined in **WHS Emergency Response and Preparedness Procedure (PRO365),** QUU Fire Wardens will:

- Fire safety system and related installations are routinely inspected and maintained as per the site annual maintenance plan with any non-compliances (i.e. items deemed out of service or impaired) managed in accordance with relevant legislative and Australian Standard requirements.
- Records and registers are held on site and within TRIM as required by QUU's SMS and *Building Fire Safety Regulations 2008* requirements.
- Be appointed with their training details recorded in the QUU My Learning Space (MLS).
- Maintain and have their contact and appointment details available on QUU Intranet Contact List.
- Have their identity prominently displayed at all QUU work sites including on all QUU Safety Noticeboards.

5.5 FIRE SAFETY ADVISOR

QUU Fire Safety Advisers (FSA) appointed for and by QUU will:

- Hold and maintain required skills, competency and a current building fire safety qualification as detailed in this SOP and required by *Building Fire Safety Regulations 2008*
- Ensure their training details are recorded and kept up to date in the QUU My Learning Space (MLS).
- Maintain their contact and appointment details on QUU Intranet Contact Lists and where displayed in work sites (e.g. QUU Safety Noticeboards).
- Be active in the identification, reporting and management of fire safety hazards and related controls in their areas of representation.
- Provide advice and support to Project Managers when undertaking risk assessments during the design, installation and/or commission phases of any QUU owned and leased building, assets, infrastructure or property.
- Escalate any identified fire safety hazards and risks to relevant internal and external parties in accordance with QUU's **WHS Hazard and Risk Management Procedure (PRO363)**.

5.6 WORKERS

All workers shall ensure that they:

- Follow the requirements of this SOP in their respective work areas.
- Are active in the identification, reporting and management of fire safety hazards and related controls in their work area(s).

5.7 CONTRACTORS

At all times when performing work on a QUU site or for/on behalf of QUU, contractors must meet and comply with QUU's fire management requirements detailed in this and related procedures. This includes:

- Providing adequate resources to ensure implementation of the requirements of this SOP in a timely and effective manner in all areas where work is undertaken.
- Complying with this SOP and all relevant legislation, codes of practice, standards and licensing requirements that apply to their respective scope of work.

5.8 VISITORS

Visitors shall complete a visitors induction and be accompanied at all times when on QUU sites.

Whilst on a QUU site, all visitors shall ensure that they follow the site-specific fire management requirements. This includes immediately following all reasonable directions related to any emergency situation when directed by an emergency evacuation team member.

5.9 QUU PROPERTY

QUU Properties undertake the following activities for QUU leased sites (only) where the main purpose and function of the building is to house people for administration duties:

- Assist site Managers coordinate property and facility management related tasks and requirements;
- Liaise between the landlord / building owner and site Manager to provide advice and input into the annual management plan and maintenance activities specific to fixed fire protection systems / assets;
- Be the point of contact for the local site Manager for all fixed fire protection systems / assets as per lease agreement; and
- Ensure that QUU maintenance specifications for the provision of fire protection services are current, in place and aligned with *Building Fire Safety Regulations 2008* and relevant Australian Standards.

5.10 QUU SAFETY TEAM

QUU Safety Team will work with the business to ensure:

- Fire Safety Advisers (FSAs) are appointed for all relevant areas in accordance with legislative requirements.
- The establishment, review and continual improvement of fire management systems, arrangements and related procedures.
- Advice to assist in the active management and resolution of identified fire safety hazards and risks is managed in accordance with QUU SMS and relevant legislative requirements.

5.11 QUU ENVIRONMENT TEAM

QUU Environment Team will work with the business to:

- Provide advice to assist in the active management and resolution of identified environmental hazards and associated risks in accordance with Queensland legislative requirements.
- Ensure an Environmental Management Officer (EMO) is available for any incident that may require assessment and notification to the environmental regulator as per Queensland legislative requirements.

6. RELATED DOCUMENTS

- **WHS Emergency Response and Preparedness Standard (STD138)**
- **Emergency and Fire Management Quick Guide (REF203)**
- WHS Contractor Management and Investment/Divestment Procedure (PRO358)
- **WHS Emergency Response and Preparedness Procedure (PRO365)**
- **WHS Communication and Consultation Procedure (PRO361)**
- **WHS Hazard and Risk Management Procedure (PRO363)**
- **WHS Incident Reporting, Investigation and Escalation Procedure (PRO364)**
- **WHS Audit and Inspection Procedure (PRO366)**
- **Hazardous Chemicals SOP (PRO377)**
- Safety by Design SOP (TBA)
- Permit to Work SOP (TBA)
- Confined Spaces SOP (TBA)
- Traffic Management SOP (TBA)
- Plant and Equipment SOP (TBA)
- Guide to WHS (TBA)
- Electrical Safety SOP (TBA)
- Lock Out / Tag Out SOP (TBA).
- WHS Vehicle Inspection Checklist (TBA)
- Building and Site Evacuation – Emergency and Evacuation Procedure Manual
- Fire Safety Advisor Position Description (TBA)
- Building Occupancy Checklist (TBA)
- **Bushfire Preparedness Management Plan (MP70)**
- **Bushfire Management Plan (site specific) (TEM189)**
- Annual Maintenance Checklist (TBA)
- **Environmental Harm Notification Form (FOR395)**

7. GENERAL PROVISIONS

7.1 INSTALLATION AND COMMISSIONING OF FIRE PROTECTION SYSTEMS

The installation of all fire protection systems shall be done by qualified competent personnel.

All fire protection systems shall be compliant with all relevant legislation, codes, standards and licensing requirements that apply. These may include, but are not limited to, those listed in the reference table included in Section 11 of this SOP.

Compliance must be a foremost consideration in the risk assessment and design phases of new or modified installations (refer to **WHS Hazard and Risk Management Procedure (PRO363)**. Technical specifications must meet or exceed all compliance requirements.

The installation and commissioning of fire protection systems shall be managed and carried out in line with QUU's SMS and all legislative requirements. Specifically, as outlined in *WHS Contractor Management and Investment/Divestment Procedure (PRO358), Safety by Design SOP (ref# TBA)* and any other relevant standards.

Installation documentation is managed by QUU Project Manager (e.g. Major Projects, Operations, Property), held securely on site and within TRIM in a manner that is easily accessible for audit and review purposes. Documentation must provide sufficient information on design, commissioning, maintenance and inspection requirements, risks and safe work procedures in accordance with QUU's Safety by Design and SMS requirements.

7.2 MODIFICATION OF FIRE PROTECTION SYSTEMS

The modification of all fire protection systems shall be done by qualified competent personnel.

All modifications shall be compliant with all relevant legislation, codes, standards and licensing requirements that apply.

The modification of fire protection systems shall be managed in line with QUU's SMS and all legislative requirements. Specifically, as outlined in *WHS Contractor Management and Investment/Divestment Procedure (PRO358), Safety by Design SOP (ref# TBA)* and any other relevant standards.

7.3 IMPAIRMENT OF FIRE PROTECTION SYSTEMS

Certain actions must be taken and the notification protocols followed in the event that a fire protection system or part thereof is impaired in its function or is out of service. Specifically, identified impairments must be:

- Reported as a hazard or incident via the QPulse reporting system;
- Reported to the FSA and functional General Manager or Executive Leadership Team member in that work area;
- Communicated to workers on site;
- Supported by, managed and closed out in accordance with a documented contingency emergency plan; and
- Resolved in consultation with relevant stakeholders as per the local maintenance process.

These actions and notifications are applicable to all persons including contractors, who work on any QUU equipment at any time.

7.4 SERVICE PROCESSES, PROCEDURES AND SCHEDULES FOR FIRE PROTECTION SYSTEMS & EQUIPMENT

Service processes, procedures and schedules (including frequency) of fire protection systems and equipment, including inspection, testing, preventative maintenance and survey, shall be in accordance with *AS1851 Routine Service of Fire Protection Systems and Equipment* (Table 1). Emergency showers and face / eye wash stations will be managed in accordance with *AS4775 Emergency Eyewash and Shower Equipment.*

The systems and equipment covered by this SOP include:

- Automatic fire sprinkler systems.
- Fire Pumpsets.

- Fire hydrant systems.
- Water storage tanks for fire protection systems.
- Fire detection and alarm systems.
- Special hazard systems – e.g. gas suppression.
- Delivery lay flat fire hose.
- Fire hose reels.
- Portable and wheeled fire extinguishers.
- Fire blankets.
- Passive fire and smoke systems.
- Emergency planning in facilities – e.g. evacuation plans / emergency exit lighting.
- Emergency showers.
- Emergency eye wash stations.

Fire protection systems and equipment must be inspected by the authorised fire protection service provider at each of the prescribed frequencies as identified in Table 1.

Monthly inspection of all fire safety installations at site will be undertaken by relevant site personnel (i.e. site manager / supervisor or HSR) as per **WHS Audit and Inspection Procedure (PRO366)** requirements.

Table 1 – Routine Service Frequencies for Each Fire Protection Service

Fire Protection Service	Monthly	3-Monthly	6-Monthly	Yearly
Automatic fire protection sprinklers	M			
Fire pumpsets	M			
Fire hydrant systems	M*			Y
Hydrant valves			6M	
Water storage tanks for fire protection systems	M			
Fire detection and alarm systems	M			
Special hazard systems	M			
Delivery flat lay hoses				Y
Fire hose reels			6M	
Portable and wheeled fire extinguishers			6M	
Fire blankets			6M	
Passive fire and smoke systems		3M**	6M	
Fire and smoke control features of mechanical services	M			
Emergency planning in facilities				Y

***** Where pumpsets are fitted
** Where horizontal sliding doors are fitted

Emergency showers and face/eyewash stations will be inspected and maintained by an authorised service provider at least annually in accordance with both the manufacturer instructions and *AS4775 Emergency Eyewash and Shower Equipment* requirements. As a minimum the site Manager / Supervisor

will ensure plumbed emergency shower and face/ eyewash equipment is activated weekly (at manned sites) for a period long enough to verify operation and that flushing fluid is available. At unmanned sites, equipment must be tested prior to any work commencing on site and during any routine site inspections.

Inspection activities and outcomes are to be undertaken and managed in accordance with the local WHS inspection requirements detailed in **WHS Audit and Inspection Procedure (PRO366)**.

Inspection intervals for any fire safety or emergency installation may only be varied on the basis of a documented risk assessment and approval from the area General Manager and the QUU Safety Manager or Safety Team representative.

7.5 RECORDS AND REGISTERS

Site Managers will maintain a secure, current database of fire protection system records and registers at site and within TRIM that include the following:

- Routine service records required by *AS1851 Routine Service of Fire Protection Systems and Equipment*, as outlined in **Table 2** below (including fire exit and emergency lighting maintenance records).
- Certificate of fire certification.
- Classification of building class.
- Hydrant location drawing.
- Fire water reticulation drawing.
- Fire protection systems block plans / location diagrams, where required (e.g. fire extinguishers, emergency lighting plans).
- A register of fire protection systems, installations and equipment within each building (e.g. emergency lights, fire extinguishers etc).
- Technical specifications of fire protection systems and equipment.
- A copy of the current fire services contractor servicing agreement and associated scope of works.

Records must be readily available upon request for audit / inspection purposes and held within TRIM and at site in a way that is reasonably safe from the effects of fire (i.e. a metal filing cabinet). Fire safety records and documents prescribed by the *Building Fire Safety Regulations 2008* must be kept for at least two (2) years.

Table 2 – Routine Service Record Requirements

Section No.	Systems or equipment	Service records			
		Logbooks	Tags	Labels	Summary records
2	Automatic fire sprinkler systems	✓	—	—	—
3	Fire pumpsets	✓	—	—	—
4	Fire hydrant systems	✓	—	—	—
4	Fire hydrant valves	—	✓	✓	✓
5	Water storage tanks for fire protection systems	✓	—	—	—
6	Fire detection and alarm systems	✓	—	—	—
7	Special hazard systems	✓	—	—	—
8	Delivery lay flat fire hose	—	✓	✓	✓
9	Fire hose reels	—	✓	✓	✓
10	Portable and wheeled fire extinguishers	—	✓	✓	✓
11	Fire blankets	—	✓	✓	✓
12	Passive fire and smoke systems	✓	—	✓	✓
13	Smoke and heat control features of mechanical services	✓	—	—	—
14	Emergency planning in facilities	✓	—	—	—

7.6 CERTIFICATE OF CLASSIFICATION

A Certificate of Classification must be obtained from the relevant local council upon building commissioning and conspicuously displayed as near as practical to the main entrance. Copies are to be held securely on site and within TRIM by the Site Manager in a manner that is easily accessible for audit and review purposes.

7.7 FIRE FIGHTING CONTROL PLANS / BLOCK PLANS

A map of fire fighting control plans and block plans (e.g. sprinkler block plans) shall be kept for all areas where fire suppression systems and fire hydrant systems are installed on site. Block plans are to be installed by the service provider upon initial installation of fire installations. Block plans (where required) must be in the form of a permanent diagram, which is water and fade resistant and permanently fixed / displayed with the corresponding fire indicator panel and fire pump.

Physical hard-copies of these plans shall be managed by the site Manager. That is, securely held on site and within TRIM in a manner that is easily accessible for audit and review purposes.

7.8 REPORTING FIRE EVENTS

It is the responsibility of all personnel to immediately report all fire related incidents and hazards in accordance with QUU incident and hazard reporting processes. Prompt reporting may result in prevention of an injury, illness, environmental impact or property / equipment damage and ensure timely treatment, appropriate investigations to proceed and conclude, and prompt maintenance and repairs to be carried out as/where required.

All unplanned fires will be investigated. Appropriate action will be taken and controls will be put in place to prevent recurrence.

Refer to QUU **WHS Hazard and Risk Management Procedure (PRO363)**and **WHS Incident Reporting, Investigation and Escalation Procedure (PRO364)** for guidance on the reporting of WHS events.

Environmental Incident Reporting Process

Any environmental impact or harm caused by a fire must be reported to the Environmental Management Team via telephone 0411 768 492 within 24 hours of becoming aware. Minor environmental events are to be reported via the **Environmental Harm Notification Form (FOR395)**.

Environmental harm includes animal death, vegetation damage, air, noise or odour pollution or any other observable environmental impact. This includes environmental events that pose a threat to public health (e.g. nearby schools, hospitals), or to nearby sensitive environments, protected sites and habitats (e.g. conservation parks, marine parks, threatened fauna or floral species).

8. FIRE PREVENTION

8.1 BUSHFIRES (ON AND OFF-SITE)

QUU has assets and properties located in areas that are susceptible to bushfires, which could impact on QUU infrastructure if not controlled. Bushfire risks at each QUU site shall be managed in accordance with the **QUU Bushfire Preparedness Management Plan (MP70)**.

Infrastructure Planning is responsible for undertaking Bushfire Risk Assessments to confirm the level of bushfire risk for QUU assets, recording risk ratings for all assets in Asset Management Plans and Asset Data Systems (Ellipse) and reviewing risk ratings following any changes to an asset.

Where a bushfire risk is identified as high a **Site Specific Bushfire Management Plan (TEM189)** must be developed and controls implemented for the asset by Infrastructure Maintenance and Service Reliability. Examples of such controls include maintaining firebreaks around the site and engaging vegetation management contractors to slash grass and conduct controlled burns on QUU worksites and adjacent land where a risk of bushfires has been identified.

8.2 GRASSFIRES ON-SITE

Grassfires on-site could threaten safety and QUU-managed assets. The Site Manager / Supervisor has the responsibility for coordinating the slashing / mowing / poison treatment of rock beds, grassed and vegetation areas on site, in consultation with relevant stakeholders (e.g. Queensland Rural Fire Service, Fire Safety Adviser and WHS Advisor etc).

8.3 HOUSEKEEPING

Poor housekeeping, in particular allowing the build-up of combustible materials or substances, poses a significant fire risk. Regular clean-up of all work areas buildings, vehicles and equipment substantially reduces that risk, and is a requirement of all work processes (and operation of equipment) on site. *QUU Guide to WHS (Ref # TBA)* provides specific directions on housekeeping and shall be complied with.

Unnecessary combustibles shall not to be stored on QUU sites.

8.4 WASTE MANAGEMENT

Waste materials can create a fire hazard, and must be handled in accordance with **QUU Hazardous Chemicals SOP (PRO377)** and local Waste Management Plans, where in place. It is particularly important that combustible materials, regulated waste (including oily rags and petrol / oil / lubricant containers), oil filters and batteries are disposed of correctly by approved waste management contractors in accordance with QUU waste management requirements.

8.5 STORAGE OF GAS CYLINDERS AND PRESSURE VESSELS

Storage and handling of gas cylinders and pressure vessels introduces hazards of cylinders falling, explosive rupture of cylinders and fire. Storage and handling of gas cylinders shall be in accordance with:

- AS4332 – 2004 Storage and handling of gases in cylinders.
- AS1596 – 2008 Storage and handling of LP gas.
- AS4389 – 2001 Safe use of portable and mobile oxy-fuel gas systems for welding, cutting heating and allied processes

Only gas cylinders and pressure vessels that comply with the relevant standards shall be used at QUU.

Safety Data Sheets (SDSs) shall be available where cylinders are stored, used and handled as well as available on the ChemAlert database.

A register of pressure vessels shall be kept by the site Manager / Supervisor.

8.6 HAZARDOUS CHEMICALS CONTROL

Poor management and disposal of hazardous substances can result in a fire related emergency or event. The procurement, storage, movement, and use of products containing hazardous materials shall be done in accordance with QUU **Hazardous Chemicals SOP (PRO377)**.

The ChemAlert system is used to provide the required product information to enable effective controls to be maintained.

8.7 ELECTRICAL SAFETY AND ISOLATION

Electrical work at QUU shall be conducted in accordance with the *QUU Electrical Safety SOP (Ref #TBA)* and relevant legislation, codes and standards (e.g. *Electrical Safety Act 2002*, *Electrical Safety Regulations 2002*, *Electrical Safety Codes of Practice* (multiple) and *AS3000:2007 Electrical installations*).

Energy isolations shall be done in accordance with *QUU Lock Out / Tag Out SOP (Ref #TBA)*. All electrical substations shall be earthed.

8.8 SAFE CLEARANCE OF POWERLINES

Contact with live powerlines can cause fires and tyre explosions. The provisions in *QUU Traffic Management SOP (Ref# TBA)* relating to powerlines and high clearance equipment shall be adhered to.

8.9 LIGHTNING PROTECTION

Lightning strikes can cause fires. Lighting protection is installed on some QUU assets / infrastructure (e.g. towers, digesters). The extent of lightning protection requirements shall be determined via risk assessment during the design, installation and/or commission phases of any QUU owned and leased building, assets, infrastructure or property.

Maintaining fire breaks, keeping grass low and maintaining good housekeeping significantly reduces the fire risks associated with lightning strikes.

8.10 HOT WORK

Hot work such as grinding, cutting, gouging, heating, welding (and any other heat-producing or spark-producing activities) may increase the risks of fires if not controlled or managed safely. All hot work at QUU shall be done in accordance with *QUU Permit to Work SOP (Ref# TBA)*.

8.11 CONFINED SPACES

Confined Spaces can provide conditions that promote and support fire events. The registration and management of confined spaces, and safe work therein, shall be done in accordance with *QUU Confined Spaces SOP (Ref # TBA)*.

8.12 REFUELLING

Refuelling can create a fire hazard if certain precautions are not taken. Refuelling on any QUU site must be done in accordance with the requirements of relevant WHS procedures such as:

- *QUU Traffic Management SOP (Ref# TBA)*.
- *QUU Plant and Equipment SOP (Ref# TBA*.
- *QUU Guide to WHS (Ref# TBA)*

8.13 SMOKING

Smoking is strictly prohibited on QUU premise and within:

- All QUU buildings, offices or vehicles.
- All areas not designated as a smoking area.
- Four (4) metres of any walkway, open window, air conditioning vent and building entrances.

8.14 INSPECTIONS

In addition to *AS1851 Routine Service of Fire Protection Systems and Equipment* inspection requirements, the following inspections by QUU personnel are to be conducted in relation to fire prevention and control:

Shift crews are required to conduct monthly work area inspections as per the **WHS Audit and Inspection Procedure (PRO366)** requirements. These inspections include fire protection systems, emergency equipment, housekeeping and general safety.

Safety Observations are to be conducted periodically (at least monthly) by site Managers / Supervisors and may relate to and include fire hazards. Identified hazards and associated control measures will be managed as per **WHS Hazard and Risk Management Procedure (PRO363)** requirements.

Driver / operator pre-start inspections of vehicles and mobile plant using the *WHS Vehicle Inspection Checklist* which includes checking the condition and operational readiness of fire protection systems (e.g. fire extinguishers).

Fire safety and compliance audits and inspections undertaken by QFRS or by third party fire maintenance providers which target and include the condition and operation of fire protection systems and associated records.

Planned and recorded WHS audits and work area inspections. These inspections include fire protection systems, housekeeping and general safety.

Inspection records are to be securely stored within TRIM and on site in a manner that is easily accessible for audit and review purposes.

9. FIRE DETECTION

9.1 FIRE DETECTION AND ALARM SYSTEMS

A number of fire detection systems are installed on QUU sites and facilities. They may include but not be limited to the following:

- **VESDA / Tube Detection** - aspirating smoke detection used for early warning applications where response to a fire is critical.

- **Infrared / Flame Detection** - self-contained, stand-alone devices that sense the occurrence of fire and flames and subsequently activate an alarm on the Fire Indicator Panel and activates the fire suppression system.
- **Thermal Detectors** – detect heat and activate an alarm on the Fire Indicator Panel which is then communicated via the Programmable Logic Controller (PLC). Thermal detectors are typically located in areas where smoke detection alone may be ineffective, e.g. in a shower / amenities block where there may be steam.
- **Smoke Detection** – This may include a combination of photoelectric and ionisation type smoke alarms. Photoelectric smoke alarms 'see' the smoke where Ionisation smoke alarms 'feel' the smoke.

  Note: Manual smoke detectors (i.e. battery operated alarms) are not to be installed at any QUU Site. All smoke detectors are to be hard wired as per the *Building Code of Australia* and be alarmed to a fire panel.

Fire indicator panels (fire alarm systems) are installed and operate building components (e.g. smoke and/or heat detectors, manual call points, fire doors etc) to varying degrees across QUU sites. Emergency Evacuation Team members will be trained in the use and operation of fire indicator panels installed in their areas / sites of responsibility.

The inspection, testing and maintenance of these systems shall be conducted and recorded as per Sections 6.4 and 6.5 of this SOP. Technical specifications of these systems (including commissioning sheets) must to be securely stored within TRIM and on site in a manner that is easily accessible for audit and review purposes.

10. FIRE SUPPRESION

A number of fire suppression systems are installed on QUU sites and facilities. They may include but not be limited to the following:

10.1 FIRE WATER RETICULATION

Fire fighting water is reticulated throughout QUU sites. The fire fighting water reticulation plans are to be held that include the location of pipework and valves. Electronic and physical hard-copies of these plans must be retained as per Section 9.10.

10.2 FIRE HYDRANTS

Fire hydrants are strategically located throughout QUU worksites, and are easily identifiable by any personnel working in any area. The physical locations of fire hydrants are recorded on plans which must be held and managed as per Section 9.10.

10.3 PUMPS

Pumps connected to the fire fighting water network are recorded on plans relevant to and maintained by each QUU site.

Pumps may include electrical and diesel-powered back-up pumps with independent fuel supply, in case of power outages. Relevant site personnel will be trained in the start-up and operation sequences of the pumps.

10.4 SPRINKLER SYSTEM

Sprinkler systems are installed where fire fighting capabilities are otherwise limited or in areas identified and determined required by a risk assessment. The sprinkler system is fed by the associated fire water reticulation system at each site.

10.5 DELUGE SYSTEM

Deluge systems may be installed on QUU sites. These may consist of bulk water storage tanks, automatically operated electric OR diesel-powered pumps with associated automatic start-up, distribution manifolds, pipe network and delivery nozzles / sprinklers.

Water is distributed via a pipe network and delivered via nozzles / sprinklers.

Deluge systems are activated automatically by the associated fire detection system at each site. Systems may be manually activated at the deluge distribution manifold. Relevant site personnel will be trained in the start-up and operation sequences for the pumps with copies of plans and operation manuals held and managed as per Section 9.10.

10.6 GASEOUS SUPPRESSION SYSTEMS

Gaseous fire suppression systems (e.g. Argonite or FM200 gas) may be used on QUU sites in environments where the use of water, foam or powder may be inappropriate or unsafe.

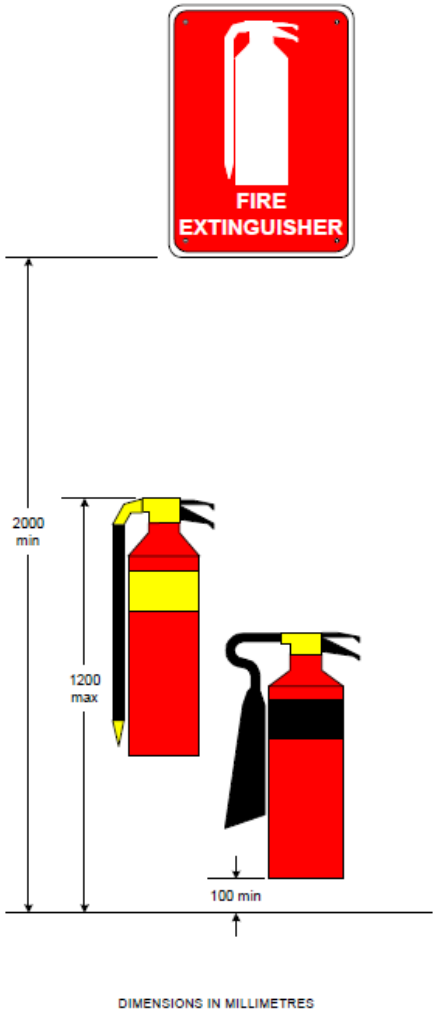
The storage of gas storage cylinders and access to associated SDS via the ChemAlert database will be managed as per **Hazardous Chemicals SOP (PRO377)**.

10.7 FIRE EXTINGUISHERS / FIRE BLANKETS / HOSE REELS

Fire hose reels, hand-held and wheeled fire extinguishers are located on QUU sites, in accordance with building design specifications for respective buildings, installations and fixed plant. First response fire fighting equipment must be selected and endorsed by QUU Executive Leadership Team, in accordance with legislation and relevant standards prior to building and site occupancy.

Each extinguisher shall be located in a conspicuous and readily accessible position, free from obstruction and at a height no greater than 1200mm and no less than 100mm. Location signage will be provided mounted no less than 2.0m above floor level or at a height that makes it the most apparent to a person of average height. Refer to Figure 1.

Figure 1: Extinguisher Location and Signage Requirements



Evacuation diagrams showing the location of fire extinguishers, fire blankets, fire hose reels, manually operated fire alarms - shall be displayed in each building as per *Building Fire Safety Regulations 2008* requirements.

Fire hose reels shall be installed in accordance with *AS2441 Installation of Fire Hose Reels*. Fire extinguishers and fire blankets shall be installed in accordance with *AS2444 Extinguishers and Blankets - Selection and Location*, plus in any additional locations identified by a risk assessment.

In summary, fire hose reels are to be identified by an instructional sign on correct usage, free from obstructions that hinder reasonable access (including entanglement) and stored in working order (i.e. nozzle engaged, rolled appropriately and in working order).

10.8 FIRE EXTINGUISHERS FOR VEHICLES / MOBILE EQUIPMENT

Vehicles and mobile equipment (QUU and contractor owned) must be equipped with a fire extinguisher/s where:

- Equipment that could be used for any form of hot work such as welding, grinding etc is carried.
- Used or operated in remote or isolated areas where restricted access or delayed response to or from emergency services is identified.
- Staff may need to participate in a 'first response' situation to prevent or reduce damage to QUU vehicles, assets, public assets or the environment in the event of a fire related emergency.
- Any quantity of dangerous goods as defined by WHS legislation is stored or carried.

The sizes and numbers of fire extinguishers required for each vehicle shall be determined through a risk assessment.

Note: *Exclusion from these requirements can only be determined by risk assessment where it can be proven that the need to carry a fire extinguisher would create an unnecessary risk to QUU workers, assets or the environment. The exclusion must be approved by the area General Manager in conjunction with the Fleet Manager and the QUU Safety Manager or Safety Team representative.*

All hand held fire extinguishers shall be readily accessible, be fully charged and undergo regular certified checks 6 monthly.

As part of their daily pre-start inspection, drivers / operators shall check that their vehicle / mobile equipment has the appropriate fire extinguisher/s, that the test date is current, that the fire extinguisher is charged and that the fire extinguisher is not damaged.

It is the responsibility of any person who uses a fire extinguisher to replace it with a fully charged unit (stores item).

Every week the first driver / operator is to remove, check, wipe clean (if necessary) and shake each fitted fire extinguisher to unpack any powder to prevent failure if used. Inspection activities and outcomes are to be captured in the *WHS Vehicle Inspection Checklist (TBA)*.

10.9 SELECTION OF FIRE EXTINGUISHERS

AS2444 Extinguishers and Blankets - Selection and Location provides information to assist determine the type and number of fire extinguishers required, for the main hazard classes present within an area. Hazard classes include:

- Class A: Fires involving carbonaceous fires (wood, paper, etc)
- Class B: Fires involving flammable and combustible liquids
- Class E: Fires involving energised electrical equipment

In areas where the risk involves energised electrical or electronic equipment or cooking oils or fats, extinguishers which have an E or F classification shall be provided, as determined through a risk assessment.

The following tables are extracted from AS2444 and provide guidance on the floor area of protection afforded by extinguishers of different ratings and for different hazard classes.

TABLE 4.1

MINIMUM RATING, CLASSIFICATION AND DISTRIBUTION OF EXTINGUISHERS FOR CLASS A FIRE RISKS

Fire hazard	Minimum rating and classification of extinguishers	Maximum floor area per extinguisher m^2	Maximum floor area per extinguisher complementing fixed fire suppression m^2
Light	1A	100	150
	2A	300	450
	3A	450	675
	4A	675	1000
Ordinary	2A	100	150
	3A	300	450
	4A	450	675
	6A	675	1000
High	2A	150	225
	3A	200	300
	4A	300	450
	6A	450	675
	10A	675	1000

TABLE 4.2

MINIMUM RATING, CLASSIFICATION AND DISTRIBUTION OF EXTINGUISHERS FOR CLASS B FIRE RISKS IN AREAS NOT CONTAINING A FIXED AUTOMATIC FIRE SUPPRESSION SYSTEM

Fire hazard	Minimum rating and classification of extinguishers	Travel distance from extinguishers to the hazard m	Maximum floor area per extinguisher m^2
Light	5B	2 to 3	15
	10B	2 to 4	45
	20B	2 to 5	80
Ordinary	20B	3 to 5	80
	30B	3 to 7.5	115
	40B	3 to 10	150
High	40B	4 to 10	150
	60B	4 to 12.5	225
	80B	4 to 15	300

TABLE 4.3

DISTRIBUTION OF EXTINGUISHERS FOR CLASS B FIRE RISKS IN AREAS CONTAINING A FIXED AUTOMATIC FIRE SUPPRESSION SYSTEM

Fire risk	Minimum rating and classification of extinguishers	Travel distance from extinguisher to the hazard m	Maximum floor area per extinguisher m^2
Light	5B	3 to 5	80
	10B	3 to 7.5	115
	20B	3 to 10	150
Ordinary	20B	3 to 10	150
	30B	3 to 12.5	225
	40B	3 to 15	300
High	40B	4 to 10	150
	60B	4 to 12.5	225
	80B	4 to 15	300

10.10 RECORDS

A copy of all fire suppression system plans will be held in TRIM with physical hard-copies securely kept / held at site in a manner that is easily accessible for audit and review process.

11. FIRE SAFETY MANAGEMENT

11.1 FIRE SAFETY ADVISERS ROLE

In accordance with the *Queensland Building Fire Safety Regulations 2008* Fire Safety Advisers (FSA) will be appointed for the organisation, coordinated by the local WHS Committee. As a minimum at least two (2) FSAs will be appointed for each functional area.

QUU's appointed FSA will:

- Hold and maintain a current building fire safety qualification issued via a recognised Registered Training Authority;
- Enter and maintain their personal training records in the QUU My Learning Space (MLS).
- Maintain and have their contact and appointment details available on QUU Contact List.
- Have their photo, contact and appointment details displayed on QUU Safety Noticeboards in areas of representation.
- Be authorised to assist the organisation manage building fire safety requirements such as ensuring appropriate emergency planning has taken place and that appropriate instruction is carried out at the prescribed times and intervals.

11.2 EXTERNAL ASSISTANCE

Primary external assistance in the event of fires and related emergency situations will be the QFRS. Site Supervisors and FSAs shall periodically maintain liaison with the QFRS, to affirm contacts, notification requirements (e.g. event of critical defects, events etc) and emergency response capabilities.

Fees and charges issued by QFSR following attendance for unwanted alarm activations (i.e. false alarm call outs) will be the responsibility of the functional area.

11.3 EMERGENCY RESPONSE

Actions in the event of a fire shall be in accordance with:

- Site specific Emergency Procedure Manual (or Fire and Evacuation Plan)
- **WHS Emergency Response and Preparedness Standard (STD138)**
- **WHS Emergency Response and Preparedness Procedure (PRO365)**

11.4 EVACUATION ROUTES / EXIT DOORS

All evacuation routes must be clear of obstructions, lead to an open space with final exits clear of obstruction for two (2) metres clearance. The final exits of any adjoining properties must be clear at all times.

Exit doors in the evacuation route or at the final exit of the building must be:

- The correct type (i.e. hardware and locking mechanisms).
- Opened by a single handed downward or pushing action.
- Unlocked and unobstructed.
- If automatic, able to be open in an emergency.
- Free from unprotected penetration.

11.5 FIRE EXTINGUISHERS / EMERGENCY EXITS / LIGHTS

All staff and visitors shall receive occupancy induction to QUU buildings and sites outlining emergency exits.

Upon arrival and prior to site access, visitors shall sign the visitor's book, be provided with and wear visitor's identification. The emergency evacuation team are responsible for collecting and taking roll call against the visitor's book to ensure that all persons are accounted for in the event of an emergency evacuation.

Correct fire extinguisher selection and use must be included in the QUU site specific training and instruction. All staff must familiarise themselves with the location of fire extinguishers and only use in the event of a fire if safe and competent to do.

Fire extinguishers must be clear of obstruction and accessible at all times.

Emergency exits are to be clearly identified on all buildings with emergency exit lights fitted in accordance with *AS2293 Emergency Escape Lighting*. These exits must be clearly identified on the evacuation sign for each building.

All staff should familiarise themselves with the location of emergency exits for the respective buildings, installations and fixed plant they work in.

11.6 MANUAL CALL POINTS

Manually operated fire alarms (e.g. break glass alarms) are installed to varying degrees in buildings on-site at QUU. Where a manual call point is installed not connected to a local alarm system, the break glass alarm is to be signed *"In case of fire break glass and call 000"*.

11.7 EMERGENCY PREPAREDNESS

Requirements for emergency evacuation plans, assembly areas, evacuation signs and diagrams, fire and evacuation instructions and evacuation practice exercises are outlined in **WHS Emergency Response and Preparedness Procedure (PRO365)**.

12. REFERENCES

The following references contain information used in the preparation and development of this Fire Management SOP:

- Queensland Building Fire Safety Regulations 2008
- Queensland Work Health and Safety Act 2011
- Queensland Work Health and Safety Regulations 2011
- Building Code of Australia
- *AS2293 Emergency Escape Lighting*
- AS1603 Automatic Fire Detection and Alarm Systems
- AS2419 Fire Hydrant Installations – System Design, Installation and Commissioning
- AS1221 Fire Hose Reels
- AS2441 Installation of Fire Hose Reels
- AS2444 Extinguishers and Blankets - Selection and Location
- AS2792 Fire Hose - Delivery Layflat
- AS1841 Portable Fire Extinguishers
- AS1851 Routine service of Fire Protection Systems and Equipment
- AS2118 Automatic Fire Sprinkler Systems
- AS4775 Emergency Eyewash and Shower Equipment

13. REVIEW

The Fire Management SOP is to be reviewed every 2 years or earlier if:

- There is an identified risk to business
- A significant safety or unplanned fire event occurs
- Incident investigation or audit results show that application of the standard fails to deliver the required outcomes
- There are changes in associated legislation
- There is evidence that the standard is not having a positive impact on safety-related KPIs.

14. FURTHER INFORMATION

For further information, contact your Fire Safety Adviser, Health and Safety Representative or the QUU Safety Team.