Fire Safety Guideline
Building Fire System Précis

MFS Fire Safety Guideline for Building Fire System Précis

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METROPOLITAN FIRE SERVICE SOUTH AUSTRALIA

MAR 2022

First Issued: 8 April 1992
Author: FSE Marchant
Review date: 2 March 2022
Reviewed by: SFSE Seppelt
Version: 2.0
Authorised by: ACFO Community Safety & Resilience

DOCUMENT CONTROL

Revision History:

Version	Revision Description	Date
-	Original	8 April 1992
1.0	Conversion to Guideline from Policy 038 and rewrite throughout	28 July 2014
2.0	Format update	2 March 2022

List of Amendments:

Clause	Amendment
Title	Change from *Built Environs Section Guideline 026, Building Fire System Précis* to *MFS Fire Safety Guideline for Building Fire System Précis*.
Whole document	Format update
Glossary, Definitions, Referenced Documents	Updated
Purpose	Added

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GLOSSARY

AS	Australian Standard
ASE	alarm signalling equipment
BCA	Building Code of Australia
BES	MFS Built Environment Section, Community Safety & Resilience Department
CIE	control and indicating equipment
CSRD	MFS Community Safety and Resilience Department
DtS	Deemed to Satisfy (Provision, of the NCC. Refer Definitions)
EWCIE	emergency warning control and indicating equipment (refer Definitions, sometimes referred to as a "MECP")
EWIS	emergency warning and intercommunication system
FDCIE	fire detection control and indicating equipment (refer Definitions, sometimes referred to as a 'fire indicator panel (FIP)')
FBP	fire brigade panel
FCR	fire control room
FIP	fire indicator panel (see FDCIE)
FFCP	fire fan control panel (refer Definitions)
FFF	firefighters' facility
FRL	fire resistance level (as defined by the NCC)
LED	light emitting diode
MECP	master emergency control panel (see EWCIE)
MFAS	Managed Fire Alarm Service (refer MFS Built Environment Section Policy 037)
MFS	South Australian Metropolitan Fire Service
NCC	National Construction Code
OWS	occupant warning system
PSTN	public switched telephone network
SAPN	South Australian Power Networks
SCV	sprinkler control valve
SECP	Secondary Emergency Control Panel
SIM	subscriber identification module
SIP	sub indicator panel (refer Definitions)
WIP	warden intercom point (refer Definitions)

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REFERENCED DOCUMENTS

The following documents are referred to in this Guideline:

AS 1668.1 Australian Standard 1668.1 – *The use of ventilation and air conditioning in buildings – Part 1: Fire and smoke control in buildings*

AS 1670.1 Australian Standard 1670.1 – *Fire detection, warning, control and intercom systems – System design, installation and commissioning – Part 1: Fire*

AS 1670.4 Australian Standard 1670.4 – *Fire detection, warning, control and intercom systems – System design, installation and commissioning – Part 4: Emergency warning and intercom systems*

AS 1851 Australian Standard 1851 – *Maintenance of fire protection systems and equipment*

AS 2118.1 Australian Standard 2118 – *Automatic fire sprinkler systems, Part 1: General systems*

AS 2419.1 Australian Standard 2419 – *Fire hydrant installations, Part 1: System design, installation and commissioning*

AS 2441 Australian Standard 2441 – *Installation of fire hose reels*

AS 2484.2 Australian Standard 2484 – *Fire – Glossary of terms, Part 2: Fire protection and firefighting equipment*

Australian Building Codes Board, *National Construction Code, Volume One, Building Code of Australia,* (Edition applicable at the time of Development Approval), Australian Building Codes Board, Canberra.

Planning, Development and Infrastructure (General) Regulations 2017 (SA)

South Australian Metropolitan Fire Service, *Built Environment Section Policy 037, Fire alarm conditions of connection – Schedule 1*, MFS, Adelaide.

DEFINITIONS

Deemed-to-Satisfy (DtS) Provision has the meaning as defined in the National Construction Code (NCC).

Emergency warning control and indicating equipment (EWCIE) is as defined in AS 1670.4.

Fire detection control and indicating equipment (FDCIE) is as defined in AS 1670.1.

Fire fan control panel (FFCP) is as defined in AS 1670.1.

Performance Solution has the meaning as defined in the National Construction Code (NCC).

Sub indicator panel (SIP) is a supplementary FDCIE panel that operates independently from the main FDCIE, monitoring a separate or specific area, room or system and in turn activates the main FDCIE.

Warden intercom point (WIP) is as defined in AS 2484.2 and as per the requirements of AS 1670.4.

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1 PURPOSE

This guideline has been produced as a design aid for the formulation of a fire system précis document.

2 SCOPE AND GENERAL

2.1 General Requirements

A précis document is required for any building:

1. of four (4) storeys or greater (Metropolitan Fire Service (MFS) "A Class" risk);
2. considered to be a "large isolated building" in accordance with the National Construction Code (NCC);
3. incorporating more than two smoke zones;
4. incorporating an AS 1668.1 smoke hazard management system in accordance with the NCC; or
5. incorporating multiple fire hydrant system pressure zones.

The requirements for and contents of a précis may also be at the discretion of the MFS Built Environment Section (BES) and should be discussed during the planning phase of a building.

As detailed in Section 4 of this guideline, a draft of the précis shall be submitted to the BES for approval prior to any functionality testing performed by the MFS pursuant to Regulation 103 of the *Planning, Development and Infrastructure (General) Regulations 2017*.

Two copies of the précis must be retained in the building fire control room or fire control centre (adjacent the fire detection control and indicating equipment (FDCIE)). A further hardcopy and an electronic version shall be forwarded to the BES for recording purposes.

2.2 What is a Précis Used For?

MFS Officers in charge of an incident need precise and easily understood, basic information about the building and its fire safety systems.

Whilst it is the responsibility of all fire officers to be familiar with the buildings in their station area, it is impossible for them to be intimate with the detailed fire safety features of every building in their district. Furthermore, staff transfers from district to district may result in firefighters from a different station area attending a fire within a building that is unfamiliar to them.

A Building Fire System Précis is in addition to the Operating and Maintenance (O&M) Manuals pertaining to the building services (fire, mechanical, electrical, etc.) already provided as part of a buildings recorded installation information.

O&M Manuals are typically located within the facility management office on site and are referred to for equipment operating instructions, make and model of selected equipment, prescribed maintenance requirements and "as-installed" drawings and commissioning data (Certificate-of-Completion, test results, etc.).

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3 THE STRUCTURE OF A PRÉCIS DOCUMENT

3.1 Front Cover

All precis documents must start with a front cover giving details of the building name and street address. Then a title must be provided to indicate what is contained in the bound document: e.g. “FIRE SAFETY SYSTEMS IN THIS BUILDING”. A note that this information is “IMPORTANT FIRE SERVICE INFORMATION” should also be added and a further note “DO NOT REMOVE” will be necessary to deter people taking the document away from its location in a fire control room or FIP cabinet.

A typical front cover is shown below:

The Smith Building
123 ABC Street
ADELAIDE

FIRE SAFETY SYSTEMS IN THIS BUILDING

IMPORTANT FIRE SERVICE INFORMATION

Note: This building contains Performance Solutions

DO NOT REMOVE

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3.2 Quick Reference Page

All précis documents must start with summary section directly after the front cover titled "QUICK REFERENCE GUIDE" which gives broad outlines of building location, exits, lifts and installed fire safety systems.

Where the building is so large or complex that the information cannot be fitted on a single page, then the building complex may need to be broken down into sections. This must be discussed with the MFS prior to writing the document.

For guidance, an example of a precis for our hypothetical Smith Building follows.

An example of a quick reference for the Smith Building is shown below and should be bound into the document directly after the cover sheet.

QUICK REFERENCE GUIDE

Contact Details

Building Management:-

e.g. Colliers International – Adelaide Office A/H emergency contact: _____

Major Tenants:-

e.g.

ANZ Bank (Levels 3 and 5, 7 - 9) – A/H emergency contact: _____

Starbucks (Ground Floor) – A/H emergency contact: _____

Department of Housing and the Aged (DOHA) (Levels 10 – 12) – A/H emergency contact: _____

Building Description

Number of Storeys:- 17

Rise in Storeys (Number of above ground storeys):- 15

Occupancy per storey:-

B1	-	Basement upper – car parking
B2	-	Basement lower – car parking
Ground Floor	-	Retail
First to 13th	-	Office
14th Floor	-	Restaurant
Roof top	-	Plant room (minor)

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QUICK REFERENCE GUIDE (cont.)

Access

GENERAL

- Fire appliance access: Jones and Wilson Streets only.
- Fire Control Room
  - Entry 1 from Ground Floor lobby
  - Entry 2 from Wilson Street
- Fire Pump Room: Upper Basement (B1), from Stair 3

LIFTS

- There are 6 lifts in the building
- High rise – eastern lifts 1-3
- Low rise – western lifts 4-6
- Fire Service keyed lifts – ALL LIFTS
- Stretcher lift – lift 2
- Lift for evacuation (disabled egress) – lifts 3 and 6

FIRE STAIRS

- a scissor stair serves all above-ground floors (one coded **GREEN**, one coded **BLUE**)
- access to **BLUE** stair adjacent fire control room
- **BLUE** access/discharge point – Jones St
- **GREEN** access/discharge point – Wilson St
- Stair 3 and Stair 5 serve the Basement Levels

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QUICK REFERENCE GUIDE (cont.)

Fire and Life Safety Systems Summary

FIRE SYSTEM (WET)

- Whole of building combined sprinkler/hydrant system.
- Combined system booster located – Jones Street.
- Sprinkler/hydrant pumps located:
  - Upper Basement (B1) Pump Room – access from Stair 3.
  - One diesel fire pump and one electric fire pump plus automatic jacking pump in pump room.
- Fire pump remote controls on FIP.
- Fire Tanks (FT-1 and FT-2) located: Upper Basement (B1) west.
- Fire tanks 30,000 litres each, interconnected.
- Fire tank remote quick fill motorised valve – control on FIP.

SPRINKLER SYSTEM

- Sprinkler control valves (SCV) located:-
  - Ground Floor, B1 and B2 served by common Ground Floor SCV in Stair 3,
  - 1st Floor to 12th Floors served by individual SCVs in **BLUE** Stair,
  - 13th floor and Roof Plant Room served by 13th Floor SCV in **BLUE** Stair.

HYDRANTS / HOSE REELS

- Hydrant valves and sprinkler control valves in **BLUE** fire stair each floor.
- Hydrants only in **GREEN** fire stair each floor.
- Hose reels and extinguishers adjacent each floor entry outside stair.

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QUICK REFERENCE GUIDE (cont.)

FIRE DETECTION AND ALARM SYSTEM (DRY)

- Fire indicator panel (FIP) located in fire control room (FCR).
- Emergency warning control and indicating equipment (EWCIE) located in FCR.
- Public Address hand-piece in EWCIE.
- Fire pump remote control panel – in FCR.
- Smoke hazard management control panel – on FIP.

SMOKE HAZARD MANAGEMENT

- Sandwich pressurisation system:
  - Smoke exhaust to fire floor,
  - Outside air pressurisation all non-fire floors,
- Stairwell pressurisation – all stairs.
- Car park exhaust – Basement 1 and Basement 2.
- Car park supply air fans – Basement 1 and Basement 2.

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QUICK REFERENCE GUIDE (cont.)

Utilities Isolation / Equipment Controls

ELECTRICAL

- Main switch room – Ground floor south east corner.
- Note: essential services isolator in separate cubicle.
- Transformer room – Ground floor central west. Contact SAPN for access.
- Emergency generator – Ground floor central west.
- Main floor switchboards (typical) located adjacent eastern lifts.

GAS

- Main gas valve – Upper Basement (B1), access from **GREEN** stair.
- Gas meter in Jones Street (eastern side).

WATER SUPPLIES

- Fire water (incoming) main isolation valve Upper Basement (B1) (east).
- Fire service connection (150mm) from Jones Street towns main (150mm).
- Domestic water meter located Upper Basement (B1) (east).

SMOKE HAZARD MANAGEMENT

- Car Park exhaust (CP-EX) and supply air (CP-SAF) fans control from FIP and local control at mechanical switchboard located in Lower Basement (B2) (south west).
- Stair Pressurisation Fans (SPF-1 and SPF-2) control from FIP and local control from Roof Level Plant Room.
- Main Building Return Air / Smoke Exhaust Fan (RA/SSF – 1) control from FIP and local control from Roof Level Plant Room.
- Main Building Supply Air Fan / Air Handling Unit (AHU – 1) control from FIP and local control from Roof Level Plant Room.

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QUICK REFERENCE GUIDE (cont.)

Performance Solutions

This building incorporates *Performance Solutions* to the prescriptive Deemed-to-Satisfy Provisions of the National Construction Code in relation to the following fire and life safety measures:-

1. Extended egress – 26 metres maximum travel distance.
2. Reduced fire ring main pipe sizing – 100mm diameter combined system mains throughout.
3. Combined System Booster not provided with complying radiation protection.

As can be seen, in a few words we have quickly conveyed to the Incident Commander fundamental information necessary for firefighting, i.e. what access is available, what systems automatically work and roughly where they are located in the building plus the use of the building itself.

3.3 Main Body of Document

The précis must then continue in more detail giving further concise descriptions of each facility installed. Initially, firefighters are committed to the saving of lives prior to the saving of property; hence initially access/egress facilities within the building are very important.

Note the sequence of descriptions based upon order of importance and expected firefighter knowledge e.g. hydrant locations in high-rise are fairly uniform. Also most important, each description is contained on not more than one page so there is no need to flip pages for a description of a particular aspect of the installation.

The Précis contents page is to appear after the Quick Reference Guide.

An example of the main body of a précis for the “Smith Building” is provided in Appendix A.

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4 IMPLEMENTATION PROCESS

The MFS Community Safety and Resilience Department (CSRD) is available to advise the fire contractor in the compilation of the Précis document and representatives are available for in-house meetings. A full building fire schematic and preliminary/draft plans (as required to be produced for the Précis document) should be presented and will greatly assist in progressing with the Précis document.

A final draft Building Fire System Précis should be submitted to the CSRD for review and approval at least two weeks prior to the final alarms inspection and the agreed connection date for the Managed Fire Alarm Service (MFAS).

Submission can be made via hardcopy to the relevant CSRD Alarms Officer when undertaking a “pre-inspection” or directly submitted to the CSRD.

A signed off and marked-up draft document will then be returned to the fire services contractor (within 5 working days from receipt) for contractor revision/completion as required.

Three hardcopies of the final document shall be provided on the day of final inspection by the CSRD Alarms Officer. Two copies are to be located within the FCR and a copy to be provided to the CSRD Alarms Officer.

An electronic version shall also be provided to the CSRD for our record keeping.

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APPENDIX A – EXAMPLE PRECIS (MAIN BODY)

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GLOSSARY

AFL	above floor level
ASE	alarm signalling equipment
EWIS	emergency warning and intercom system
FIP	fire indicator panel
MECP	master emergency control panel
NBN	National Broadband Network
NCC	National Construction Code
PA	personal address
RAD	return air damper
S/A	supply air
SAD	supply air damper
SAF	supply air fan
SCBA	self-contained breathing apparatus
SCV	sprinkler control valve
SIM	subscriber identification module
SSF	smoke spill fan
WIP	warden intercommunication point

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1 INTERNAL ACCESS/EGRESS STAIRS

This building contains scissor stairs.

Scissor stairs are decorated internally in either **GREEN** or **BLUE** with sign written floor numbers from Ground to Top Floor restaurant.

- **BLUE** stair - Entry from Ground lobby west accesses the following floor doors:

  West | 1st | 3rd | 5th | 7th | 9th | 11th | 13th | Roof Plant

  East | Mezz | 2nd | 4th | 6th | 8th | 10th | 12th | 14th

- **GREEN** stair - Entry to the Ground floor lobby east accesses the following floor doors:

  West | Mezz | 2nd | 4th | 6th | 8th | 10th | 12th | 14th

  East | 1st | 3rd | 5th | 7th | 9th | 11th | 13th | -

- Roof plant room access only via BLUE stair from 14th floor
- Basement access via Stair 3 and Stair 5 stair, entry from ground lobby west.

Provide schematic diagram as appropriate – to be agreed upon with MFS Built Environment Section (BES) Officers (example below).

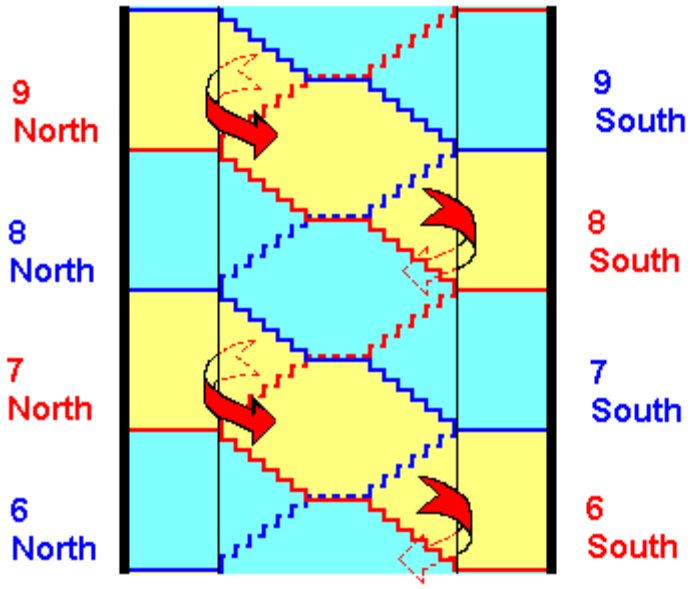

Figure 1: Schematic diagram - scissor stairs.

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2 FIRE SERVICE LIFTS

2.1 Fire Service Lift

Fire service lift (fitted to all lifts), utilise fire service lift key for control.

This lift system contains concealed fire service control panel within lift car, utilised special access key to open hinged cover plate.

2.2 Emergency Lift / Stretcher Facility

Lift 3 and Lift 6 are sized to accommodate a raised stretcher (BCA E3.2) and are considered to be Emergency Lifts.

2.3 Lifts for Evacuation

There are/ are not lifts within this building specifically designed to operate during an emergency to afford egress to mobility impaired occupants. These lifts are supplied with:-

- emergency back-up generator electrical power supplies,
- lift landings are smoke isolated,
- lift doors are fire rated,
- lift operating system provided with IP65 rated equipment for continuous operation with some water ingress.

3 STAIRWELL PRESSURISATION

Each fire stair (excluding basement stairs Stair 3 and Stair 5) is provided with stair pressurisation from roof mounted axial fans. (SPF-1 and SPF-2).

Stair pressurisation fans have auto start by any installed smoke detector or sprinkler on the floor of fire origin and have manual controls at FIP and at mechanical switchboard X, located in Roof Level Plant Room.

Stair pressurisation system has been commissioned in accordance with AS1668.1 (19XX edition) with allowances for the following doors to be fully open (detail as per design):-

- Two doors on the fire floor
- One door on the floor above
- Ground floor stair discharge door

4 BOOSTER AND WATER SUPPLIES

The booster cabinet located in external wall of building Jones Street, budget locked, contains:

- 4 X 64mm dia. hydrants,
- 4 X 64mm dia. inlets, and
- 1 X 140mm rigid tank fed suction connection.

Storz fittings are/are not utilised throughout this building.

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Further schematic and details provided in cabinet.

A double-headed pillar hydrant is located in Jones Street within 20 metres of the building. Two (2) fire plugs located in Wilson Street.

All street mains 150mm dia.

Note: Refer *Performance Solution* section.

5 ELECTRICAL / GAS

Main switchboard room located Upper Basement (B1) southwest corner, adjacent SAPN transformer room. Access from ground lobby east via Stair 5.

Emergency power generator located in Ground Floor Generator Room accessible through main switch room.

Gas meter and shut off located in room Lower Basement (B2) southwest corner access via Stair 5.

Rising gas main north of lift core serves; restaurant and roof boilers.

6 COMBINED HYDRANT / SPRINKLER SYSTEM

The hydrant and sprinkler system in this building are combined, served by one set of diesel and electric pumps, with two (2) 150mm stairwell risers and three (3) valved cross-feed connections between risers located on floors: Lower basement (B2), 7th and 14th.

All valves located in stairwells permit isolation of a failed section of main whilst retaining 75% of system hydrants in operation.

All valve closures monitored at FIP. See full schematic drawing at rear of this document for further system details.

Note: Refer *Performance Solution* section

7 HYDRANT / HOSE REELS

All hydrants are located in the stairwells, one per stair per level, with fire hose reels located in cupboards within each tenancy adjacent to the stairwell door.

Hydrant outlet pressure from fixed onsite fire pumps is between 700kPa at Plant Room Level and 1200kPa in Lower Basement Level (B2).

Flows available at these pressure are in the order of 1200 to 1500 L/min.

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8 SPRINKLER VALVES

Sprinkler valves serving above-ground floors are located in the **BLUE** stair at each floor level within a budget key locked cabinet.

Sprinkler valves serving the two basement levels are located in a signed cupboard with external door adjacent to the fire service booster.

9 COMBINED HYDRANT/SPRINKLER PUMPS

The combined hydrant and sprinkler pumps deliver sufficient water to simultaneously operate the hydrants and sprinklers.

The combined system pumps comprise one (1) full duty electric pump and one (1) full duty diesel pump (back-up).

Pumps are located in Upper Basement (B1), access via Stair 3.

Remote Control – Pump on/off/auto controls are located in the FIP.

Local Control – Pump start and pump stop controls are located on each pump control panel.

A pump room tank (with divider) of 60,000 litres capacity (which can be isolated into two equal volume compartments) supplies the fire pumps. Tank contents can be accessed through a 140mm dia. suction connection located in the booster cabinet.

An auto-start emergency generator back-up power supply to the Electric fire pump / booster relay pump is located in Ground Floor Generator Room with ON/AUTO/OFF switch in FIP.

10 FIRE TANK LEVEL INDICATION

The fire tank water level indication is located *(as applicable)*:-

- In the booster enclosure (LED indication)
- At the FIP (LED indication)
- At the tank – cat and mouse pulley type

11 SMOKE HAZARD MANAGEMENT SYSTEMS *(as applicable)*

11.1 Zone (Sandwich) Pressurisation – Ground to 13th Floors

The air-conditioning system provides automatic smoke control when activated by the fire detection/sprinkler system.

A primary roof mounted supply air fan (SAF-R1) mounted on top of a vertical supply air (S/A) shaft on the north side of the lift core feeds conditioned / outside fresh air from the Roof Plant Room to all floors via supply air dampers (SADs).

A vertical return air / smoke exhaust shaft on the south side of the lift core returns air to the roof plant room / smoke exhaust fan (SSF-R1). Return air dampers (RADs) control the exhausting of air off the floor and into this return air shaft.

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On a fire alarm, motorised dampers automatically supply fresh air to all non-fire floors and exhaust the fire floor to atmosphere using the return air shaft.

These is fire rated wiring to these fans and dampers.

ON/OFF/AUTO fan set switches are located in the FIP, with local control provided in the Roof Level Plant Room – mechanical service switchboard XXX.

11.2 Supplemental Ventilation (in fire mode)

Operable windows provided on each face of building for window cleaning; 1st Floor to 14th Floor.

Window keys located in each hose reel cupboard at each floor adjacent each stairwell entry door.

11.3 Ground Floor Retail

Individual air-conditioning units in each shop, no smoke control or auto control of air-conditioning. These units are powered from individual switchboards in each shop.

11.4 Carpark Exhaust and Smoke Management – Lower and Upper Basements

Auto exhaust to car park areas rated at 15 air changes per hour will run automatically in fire mode.

Fans have fire rated wiring with back-up power from generator set. AUTO/ON OFF key switches and indication provided in FIP. Local control at mechanical services switchboard located in Lower Basement (B2) south west.

Carpark supply air fans will shut down if fresh air intake in-duct smoke detector is activated for any reason.

11.5 Smoke Exhaust *(other examples)*

Shopping Centre:-
Two (2) smoke spill fans (SSF) of 20m^3/s capacity each serve the Supermarket trading floor.

One (1) smoke spill fan (SSF) of 15m^3/s capacity serves the Back-of-House (BOH) area.

The Mall is divided into three smoke zones (SZ-03, SZ-04 & SZ-05), which are served by grouped smoke spill fans SSF-02/SSF-03, SSF-04/SSF-05 and SSF-06/SSF-07 respectively.

Fans are sequentially operated from the adjacent smoke detectors (as per NCC).

This information may also be better presented in a summary table as below:

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Location	Smoke Zone / EWIS Zone	Fan	Flow rate (m^3/s)
Coles Trading Floor	SZ-01	SSF-08	20
		SSF-09	20
Coles BOH	SZ-02	SSF-01	15
Mall	SZ-03	SSF-02	15
		SSF-03	20
	SZ-04	SSF-04	10
		SSF-05	25
	SZ-05	SSF-06	18
		SSF-07	18
Mini-Major	SZ-06	SSF-10	12

11.6 Make-up Air Supplies and Fire Mode Functions *(examples)*

Make-up air is sourced from perforated main entry shutters to large tenancies.

Main entry roller shutters to raise to 3m above floor level (AFL), with lower panel imperforate to provide smoke baffle.

Smoke curtains at locations XXX and YYYY drop to ZZ metres AFL.

Loading dock roller shutter (non-perforated) to raise in alarm, perforated security grill to lower in alarm.

Auto doors on the XX and YY façade/s/Mall entry points open in fire mode.

Note: Refer *Performance Solution* section.

12 SPECIAL RISKS / SPECIALIST FIRE SUPPRESSION SYSTEMS *(as applicable)*

The following specialist fire protection systems are installed within this building:-

12.1 1st Floor Office Tenancy

FM200 extinguishing system serves the computer room 1st Floor north.

Sub FIP located adjacent protected area.

Point type smoke detectors and aspirating type smoke detection system installed within computer room.

System requires two smoke detection zones to activate prior to gas release or can be manually activated / overridden at the local sub FIP.

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30 second delay in system to allow evacuation or system isolation prior to gas release.

Manual control for exhaust fans to remove discharged FM 200 located at Sub FIP

Gas control Sub FIP is Zone 023 on main FIP

Note: FM200 utilises chemical inertion to extinguish the fire without significant oxygen displacement. **SCBA shall be used by fire crews post-discharge, especially with respect to the presence of fire gases.**

12.2 13th Floor Restaurant

Chubb saponification (suppression) system to kitchen range hoods.

Releases a caustic agent into fat fryers on activation of local manual release / thermal link / thermal detector.

Warning - Caution avoid skin contact.

Not linked to main FIP.

Automatically turns off gas to the 13th Floor kitchen via gas solenoid in 13th Floor services cupboard.

13 FIRE CONTROL ROOM

Located Ground Floor north of main lifts, accessible through lift lobby or western stairwell (**BLUE**).

Contains Fire Indicator Panel (FIP) and the Master Emergency Control Panel (MECP).

AUTO/ON/OFF controls for all fire and smoke control equipment.

AUTO/ON/OFF controls for fire pump sets.

A telephone handset is located within this room – to dial out, press “0” first.

Fire detection block plans and large-scale hydrant system schematic drawing (isometric view).

14 FIRE INDICATOR PANEL

FIP monitors/controls:

- sprinkler pressure switches for each floor
- sprinkler control valve (SCV) – main stop valves
- flow switches – Upper and Lower Basements (B1 and B2 respectively), Roof Level Plant Room
- smoke detectors on an individual basis per block plans
- smoke exhaust fans
- stair pressurisation fans
- car park supply air and exhaust fans

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- zone smoke control fans/dampers “floor by floor” fire mode
- fire pump operation
- combined fire system main stop valve

FIP is interconnected with the EWIS.

The ASE is located within the FIP and is monitored via a dual-SIM arrangement.

15 EMERGENCY WARNING AND INTERCOM SYSTEMS (EWIS)

The Master Evacuation Control Panel (MECP) is located in the fire control room adjacent to the FIP and is automatically initiated by a fire alarm from the FIP.

Auto fire alarm consists of “alert” tone to whole of building. If no response has been made to the FIP within 3 minutes, then an automatic “evacuation” cycle will commence comprising evacuation tone to fire floor followed at 1 minute intervals by floor above, floor below and floor by floor above.

The MECP has manual override and personal address (PA) facilities to individual or all floors, plus manual phone intercommunication to each floor Warden Intercommunication Point (WIP.).

WIP’s are located in each hose reel cupboard adjacent each floor stair entry door.

Full operating instructions for MECP are located within the panel.

16 PERFORMANCE SOLUTIONS

Performance Solutions may affect the way in which firefighters and incident controllers undertake firefighting operations and generally crews need to be aware of these items. It is suggested that this information is provided as below:-

“This building incorporates *Performance Solutions* to the prescriptive Deemed-to-Satisfy measures of the National Construction Code (NCC) in relation to following fire and life safety measures:-

1. Extended egress – 26 metres maximum travel distance.
2. Reduced fire ring main pipe sizing – 100mm diameter combined system mains throughout.
3. Combined System Booster not provided with complying radiation protection.”

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17 PLANS

Plans form an essential part of system knowledge. A few plans must be bound into the précis and these must be A4 size or A3 max (floor block plans as used for portable plans are acceptable) and for the hypothetical building in this example must clearly show the following:

1. A copy of the hydraulic fire block plan as per that located in the booster cabinet (AS 2419).
2. Vertical schematics showing floor levels and stair shafts for the hydrant and sprinkler system including isolation valves.
3. Site plan and floor-by-floor plans indicating location of:
    a. Booster cabinet (if not on booster plan)
    b. Storage Tank and Fire Pumps
    c. FIP location and external bell
    d. Sprinkler alarm valves
    e. Hydrant locations
    f. Fire rated access/egress stairways ramps and passages
    g. Fire walls and smoke walls
    h. Fire service lift
    i. Smoke control fans
    j. Main supply air and return airshafts
    k. General service riser ducts.
    l. Electrical switch, transformer and generator rooms
    m. Gas meter room and rising main location.
    n. MECP and WIP locations with WIP identification number
    o. Gas suppression systems installed (e.g. FM 200 system area including Sub FIP.)
    p. Specialist systems - Kitchen range hood suppression system.
4. Smoke control system:
    a. Schematic (multi-storey)
    b. Plan view (up to three storeys) including smoke exhaust and car park supply air fan locations and smoke zones
    c. Include location of exhaust risers, smoke baffles and the like.
    d. Make-up air locations

Where the building is large, complex or where a fire control room is provided, then additional information in the form of full-size services drawings and specifications may be required.

Isometric schematics of the wet system in A1 or larger and possibly colour coded (as required) shall also be permanently affixed within the fire control room.

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