Designers' guide to firefighting operations

Fire control centres

F5-09 GD

FIRE EMERGENCY NEW ZEALAND

WHAKARATONGA IWI

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1. Context

Scope

Oversight and control of a larger building's fire systems are vital for Fire and Emergency operations. This chapter sets out:

- the systems we need in a fire control centre (FCC)
- how these systems help us to operate during a fire
- specific issues that affect our operations when we use FCCs.

Who this chapter is for

This chapter is for building owners, designers and other building practitioners and contractors. It provides guidance from Fire and Emergency's perspective on appropriate life safety design considerations for FCCs.

It also gives an overview of what we expect to find in the FCC and how we'd use these systems.

Note: Buildings with simple fire safety features won't need an FCC. However, we strongly recommend including an FCC in larger buildings, i.e. tall buildings, buildings with a large footprint, and complex premises with multiple fire protection and building systems.

What is not included in this chapter

This chapter gives building industry stakeholders an overview of aspects of our operations that relate to them. However, it is not an exhaustive guide to our operations, nor does it replace any statutory requirements. We recommend you read it alongside other chapters in the guide.

Legislative framework

We aim to reduce the risk to both firefighters and building occupants through encouraging appropriate building design which allows us to achieve our statutory objective (under the Fire and Emergency New Zealand Act 2017) to reduce the incidence of unwanted fire and the associated risk to life and property. Our functions include responding to and suppressing fires and attending to other types of emergencies that may occur in a building.

Read this guide alongside the:

- mandatory requirements of the New Zealand Building Code (Building Code);
- requirements of New Zealand Standards (Standards); and
- Building Act 2004.

This guide **does not** replace any part of the Building Code or Standards or other mandatory building requirements.

Our response, our safety and the success of our firefighting operations rely on fire safety features installed in buildings.

The Building Code Fire Safety – C, clauses C1 – C6 define Building Code performance requirements of the Building Act 2004. C5 is the performance requirement on Access and safety for firefighting operations.

The Acceptable Solution and C/VM2 of the Building Code require designers to provide features for firefighting operations.

C/AS2 is the Acceptable Solution design for buildings. Part 6 of C/AS2 provides only limited information on requirements for firefighting operations, and it doesn't specifically address our operational requirements when considering the use of fire control centres in an emergency so additional guidelines are required.

2. Definitions

The following definitions apply for the purposes of this chapter. Defined terms used throughout this document are consistent with the Building Act 2004, Building Code and C/AS2 Acceptable solutions.

Address point	This point is part of the dataset administered by Land Information New Zealand (LINZ). It is the address (point) where the building is commonly known to be located. It can be either a single point or a range of individual points as described on the LINZ data set.
Appliance	An emergency vehicle that provides capability to Fire and Emergency's mandated functions.
Attendance point	The place where the first attending Fire and Emergency pumping vehicle will stop and set up. **There is only one attendance point**, usually at the building's primary entry point. Firefighters may be deployed to other firefighter access points from here. A full description of the attendance point can be found in F5-02 GD FFO Emergency vehicle access.
Breathing Apparatus (BA)	A device firefighters wear to provide breathable air in an atmosphere that is immediately dangerous to life or health. Also known as self-contained breathing apparatus (SCBA) or compressed air breathing apparatus (CABA).
Canopy	Projecting hood supported on brackets, corbels or columns over a door, window or niche.
Collapse zone	The collapse zone is an area around the building measured as 1.5 times the height of the structure. This is the area which would be considered dangerous in the event of an outward failure of a facade element. For the purpose of this document, the term 'collapse zone' only applies to pre-cast concrete panel (tilt-slab) and unreinforced masonry type construction. Use a pragmatic approach where practicable, and when in doubt, consult Fire and Emergency.
Fire control centre (FCC)	The principal location where the status of a fire detection system, an alarm system, and a communications and control system are displayed, and from which all systems can be manually controlled. Some industry standards and publications refer to the fire control centre as 'central control station', 'emergency command centre', 'fire service centre' or 'fire control room' (although different standards exist among these).
Fire engineering brief (FEB)	A formal process outlined in the International Fire Engineering Guidelines for all stakeholders to define and agree on the basis and scope of work for the fire engineering analysis.
Fire floor	The floor of the building on which the fire is reported by automatic systems or observed/reported by occupants or other persons. The fire floor may change with new information and the initial reports by occupants may be inaccurate, if the observation is of the effects of fire (e.g. smoke spread) rather than the fire itself.

Fire resistance rating (FRR)	Building Code clause C regarding protection from fire defines FRR as: The term used to describe the minimum fire resistance of primary and secondary elements as determined in the standard test for fire resistance, , or in accordance with specific calculation method verified by experimental data from standard fire resistance tests. It comprises three numbers giving the time in minutes for which each of the criteria stability, integrity and insulation are satisfied and is presented always in this order. Refer to the NZBC C Protection from fire for the full definition: https://www.building.govt.nz/building-code-compliance/c-protection-from-fire/c-clauses-c1-c6/)
Firecell	Building Code clause C regarding protection from fire defines firecell as: Any space, including a group of contiguous spaces on the same or different levels within a building, which is enclosed by any combination of fire separations, external walls, roofs and floors.
Firefighter access point	The place where firefighters gain access to a building. This must comply with Building Code Clause C5.6: Buildings must be designed and constructed in a manner that will allow firefighters, taking into account the firefighters' personal protective equipment and standard training, to: (a) reach the floor of fire origin, (b) search the general area of fire origin, and (c) protect their means of egress.
Firefighting lift	A lift or elevator designed for use by firefighters during an emergency fitted with systems to provide additional resilience to support emergency operations. A full description of firefighting lift features can be found in F5-08 GD FFO Lifts.
Forward control point (FCP)	A safe position inside the building from which to carry out firefighting operations. This is usually one to two floors below the lowest floor affected by smoke and/or fire. The location becomes the last point to assemble personnel awaiting deployment. If the extent of the fire is unknown, or the fire develops and extends vertically, it creates a situation where the demarcation of the zones becomes dynamic.
Hard-standing area (for Fire and Emergency vehicles)	A hard (roading) surface capable of withstanding the fully laden weight of a fire appliance from which fire operations for a structure are conducted. A hard-standing must be big enough for the fire appliance to enter, exit and manoeuvre and for firefighters to move around it to connect hose and safely access equipment. In most cases the hardstand will be the main road if the structure is close to it A full description of the hard-standing area can be found in F5-02 GD FFO Emergency vehicle access.

Incident ground communication (IGC) radio	Handheld two-way radios firefighters use to communicate with one another when working at an incident. Personnel using our handheld radios cannot communicate with: • other handheld radios that are set on different channels • Fire and Emergency ComCens.
Lift	A moving compartment (also known as the lift car), housed in a shaft, for raising and lowering people or things to different levels in a building. For the purposes of this document, the terms 'lift' and 'elevator' are interchangeable.
Zone index	A combination of diagrams, symbols, and text forming part of an indicating unit, to identify the location of, and general access to, individual zones. Note: A zone index is often called a 'mimic panel'.

3. Our operations

Operational need for FCCs

Fire safety design for all multi-storey or complex buildings (e.g. malls) should consider an FCC to help us manage fire operations.

An FCC is a dedicated room or other safe location containing fire alarm and related fire protection/systems control equipment.

The FCC allows us to control and monitor all of the building's systems from a single, safe location, without being affected by evacuations or operations. This reduces resourcing requirements because we don't need to send more people to different places to find the controls for different systems.

Note that we don't run the command and control functions for our operations from the FCC because we don't generally carry out these functions from inside the building.

We may deploy a mobile incident command unit (ICU), where available, to help manage operations within the building. The mobile ICU supplements our command and control functions, but it doesn't remove the need for an FCC as we still need a central location from which to control and monitor building systems.

4. Challenges

4.1. Providing information for firefighters

Providing FCCs in complex and multi-storey buildings

We recommend providing an FCC in all large, complex buildings, or those with vulnerable occupancies.

Note: Where buildings are outside the scope of the compliance documents C/VM2 or C/AS2(where the building height is over 60 m or 20 storeys respectively) we will require an FCC as part of the alternative solution.

We recommend the guidance in *NCC 2016 Building Code of Australia*, Part E1.8. This states a FCC must be provided for a building with an effective height of more than 25 m (i.e. any building above 8 storeys); and a Class 6, 7, 8 or 9 buildings (with the exception of detention centres) with a total floor area of more than 18,000 m^2.

Class 6	A shop or other building for the sale of goods by retail or the supply of services direct to the public, including -

	(a) an eating room, café, restaurant, milk or soft-drink bar; or (b) a dining room, bar area that is not an *assembly building*, shop or kiosk part of a hotel or motel; or (c) hairdresser's or barber's shop, public laundry, or undertaker's establishment; or (d) market or sale room, showroom, or *service station*.
Class 7	A building which is - (a) Class 7a - a *carpark*; or (b) Class 7b - for storage, or display of goods or produce for sale by wholesale.
Class 8	A laboratory, or a building in which a handicraft or process for the production, assembling, altering, repairing, packing, finishing or cleaning of goods or produce is carried on for trade, sale or gain.
Class 9	A building of a public nature - (a) Class 9a - a *health-care building*, including those parts of the building set aside as a laboratory; or (b) Class 9b - an *assembly building*, including a trade workshop, laboratory or the like, in a primary or secondary *school*, but excluding any other parts of the building that are of another Class; or (c) Class 9c – an *aged care building*.

Table 1 – From the NCC 2016 Building Code of Australia

Primary function

An FCC should not to be used for any purpose other than to control emergency systems. It should be a stand-alone facility to reduce interference so we can focus on operating the building systems we need to use.

However, in large complexes (e.g. hospitals, malls) and taller buildings, the FCC may be co-located in the security control room so that there is someone available to assist us with particular systems.

An FCC must contain controls, panels, telephones, furniture, equipment and other items needed for fire safety and installed systems within the building.

It must not be used for any purpose except to support:

- firefighting activities
- other measures for occupant safety or security.

Common issues

Some of the difficulties we experience with FCCs are:

- they're hard to find or access
- complex systems with difficult interfaces
- control functions aren't labelled clearly
- systems aren't operating as we would expect or aren't working at all.

4.2. Location

Location

We recommend that an FCC be in either a dedicated room within the building or a stand-alone building close to the main building.

Discuss with us where to put the FCC as early as possible, ideally through the FEB process during the concept stage.

Figure 1 – External access to an FCC

For most situations we recommend locating the FCC:

- in a separate room
- on the same level as our main entry point to the building, near the lobby or other agreed location.

  This provides quick, easy access for us and minimises any delays to our operations
- with access within 5 m of the attendance point or main entrance to the building.

  This helps us to communicate with, and coordinate arriving resources
- with direct egress from any part of its floor to a public road or open area.

  This lets us escape easily if conditions in the building or FCC change, or if the FCC is at risk of becoming involved in fire.
  - Where this isn't possible, the FCC will need to have a second means of escape
- so that occupants using escape routes from the building will not stop us getting in or out of the room.

4.3. Construction

Access corridors and stairs

Treat any corridors or stairs providing access to the FCC as an extension of the FCC and protect them to the same degree.

Fire protection

FCCs contain critical equipment that we operate during an emergency in the building. For our safety, FCCs need to be separated from the effects of fire and smoke.

We recommend providing any FCC with either a fire resistance rating (FRR) of 120/120/120 or burnout, whichever is higher, as this will make it more resilient for our operational needs.

Any services, pipes, ducts, etc., that the FCC doesn't need to function properly should not pass through it – limit openings in walls, floors and ceilings to only what the FCC needs to function properly. Treat any penetrations with a fire-stopping material/system rated to not less than the surrounding walls.

If the FCC is a stand-alone building, enclose it in concrete or similar construction so it can resist the impact of falling debris.

Smoke protection

Design the enclosure of the FCC and any associated corridor or stair to stop smoke getting in.

Alternatively, use a pressurised system that only serves the FCC, installed in accordance with AS/NZS 1668.1:2015 (as if the room is a fire-isolated pressurised stair). In this case careful consideration would need to be given to a cause and effect matrix for the system.

Internal doors

Fit any opening between the FCC and the building with a self-closing smoke sealed fire door rated to no less than the walls and ceilings. The doors need to open inwards (into the room).

Doors should be lockable and able to be opened using a Lockwood 197 key, which we carry. In some cases, the FCC may be occupied 24/7 based on its systems and/or if co-located with building security.

Dimensions

When deciding the FCC's dimensions, consider:

- what information, monitoring and control systems it needs for the building
- how much space firefighters will need to access the equipment and plans while wearing firefighting PPE and possibly BA.

The FCC should not be less than 8 m^2 with a minimum dimension of 2 m and an unobstructed clear height of 2.4 m.

If additional equipment is installed, it should have:

- an additional area of not less than 2 m^2 net floor area for each additional facility
- a clear space of not less than 1.5 m^2 in front of each additional control or indicator panel.

Ventilation

As we may be operating in the FCC for a long time, we need suitable ventilation, so the room remains comfortable.

Ventilation options are:

- natural ventilation from a window or doorway in an external wall of the building that opens directly into the FCC from a roadway or open space, or
- mechanical ventilation which provides a flow at a rate of 30 air changes per hour with any door to the room open.

Protect any openings for natural or mechanical ventilation in the FCC enclosure with a fire and smoke damper. An opening for a duct through a wall, unless it is an external wall, must have an FRR of 120 minutes or burnout (whichever is longer).

Design any mechanical ventilation system to operate for at least 120 minutes.

Sound levels

Effective communication is vital for our operations. We must be able to clearly send and receive messages between the FCC and all firefighters at the incident. It's important to minimise background noise in the FCC so sound levels don't hinder our operations.

Ambient noise within the FCC can be problematic.

Wall construction surrounding the FCC should be appropriate to minimise any external noise penetration.

We expect noise levels in the FCC to remain the same for the life of the building.

Power supply	We need uninterrupted power so we can manage the building systems throughout the emergency. Connect power to the supply side of the main disconnection switch for the building and/or provide emergency power. The alternative power supply, such as an Uninterruptable Power Supply UPS or emergency generator, must run for at least 120 minutes if the primary power goes off.
Lighting in the FCC	The FCC should be well lit so we can accurately assess the information we have access to. Emergency lighting must follow the requirements of the Building Code, except that we need light levels of no less than 500 lux at the surface of any table we'll use to look at building plans.
Signage identifying the FCC	To help us find the FCC quickly, we recommend that a sign with the words *Fire Control Centre* in contrasting colours such as white on a safety red background should be placed on the outside of the door to the FCC, at a level where we can see it easily. Signage must comply with Building Code, clause F8 (Signs). Also refer to F5-04 GD FFO Fire alarm panels. 

4.4. Fire-specific equipment

4.4.1. Fire safety systems

Instructions	We need a concise set of instructions on how to monitor or operate all equipment. This allows us to make quick decisions and act quickly. These instructions must include how to: • enable or disable the automatic mode • use the manual or override operation • interpret any visual indicators.
Fire alarm panel	• The FCC should house the main fire alarm panel (FAP) with full functionality. **Note**: This should not be confused with the mimic panel that is required at the attendance point. • The main FAP should be easy to interpret • Co-locate any associated functions, including any analogue addressable components. • Where an Emergency Warning and Intercommunication System EWIS is installed, its main functionality should also be located here. This will allow us to make the most effective use of the Warden Intercom Phones WIP phones (where fitted) on these systems. For more information on fire alarm panels, see F5-04 GD FFO Fire alarm panels.
Improved fire detection technology	The technology of fire detection systems has improved and intelligent fire alarm panels are now available.

	If there's an intelligent fire alarm panel in the FCC, the Fire Incident Controller (IC) can interrogate it and potentially have access to building cameras and voice-over systems. It also saves time by allowing us to pinpoint which detector heads have activated, so we can investigate quickly.
Fire pumps	Fire pumps should have controls and visual status indicators; this includes sprinkler booster pumps and building hydrant (riser) booster pumping systems.

4.4.2. Smoke management

Smoke management system	Managing smoke improves visibility, helps to maintain a tenable environment for both firefighters and evacuating occupants, and reduces smoke damage and fire spread. A properly operating smoke management system also gives us more options for firefighting operations. Although these systems are designed to work automatically, they also have a manual mode that firefighters can use through the fire fan control panel. Firefighters switch to manual mode if they need to: • stop a supply/exhaust fan that is introducing smoke into a non-fire affected zone • control a zone pressurisation system by manipulating zone smoke control dampers • start a stair pressurisation fan that has shut down due to a false detection of smoke at the air intake • assisting in clearing smoke after a fire. For more information, refer to AS/NZS 1668.1:2015, and Building Code C4.13.3
Fire fan control panel (FFCP)	The fire fan control panel (FFCP) is part of a building's smoke management system. The FFCP panel should have: • manual overrides for all functions • indicators that show the status of the air-handling equipment. It should be simple to understand and easy to operate; for example, it should have a three-way switch for all fan controls (Auto/On/Off).

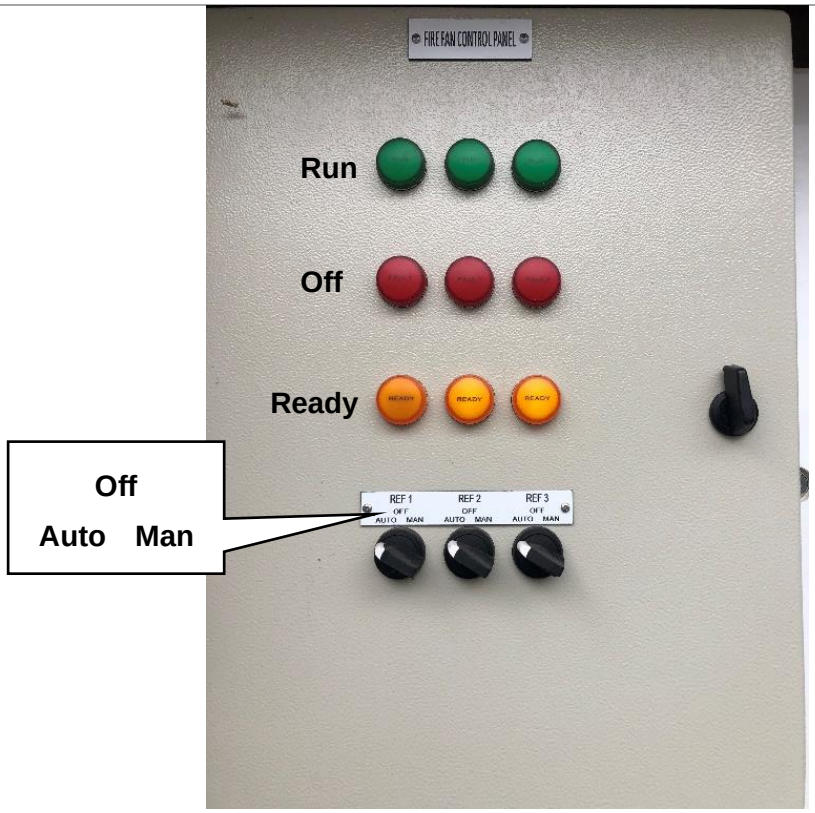

Figure 2 – FFCP with simple three-way switches for operation

Limit the number of override switches, except where special risks mean we'll need greater control of the system. Where this is the case, and for ease of operation, these should be based on an outcome or effect e.g. extract smoke from a specific area. We do not need the ability to control individual components e.g. open/close specific dampers. This will greatly enhance our ability to make informed manual alterations to the system while working under pressure.

Location, controls, indication and labelling need to comply with AS 1670.1:2018 and AS/NZS 1668.1:2015.

Labelling

Put a simple smoke control schematic diagram next to the operating instructions where we can see it easily. The diagram should show the functional air-side operation for each air-handling plant.

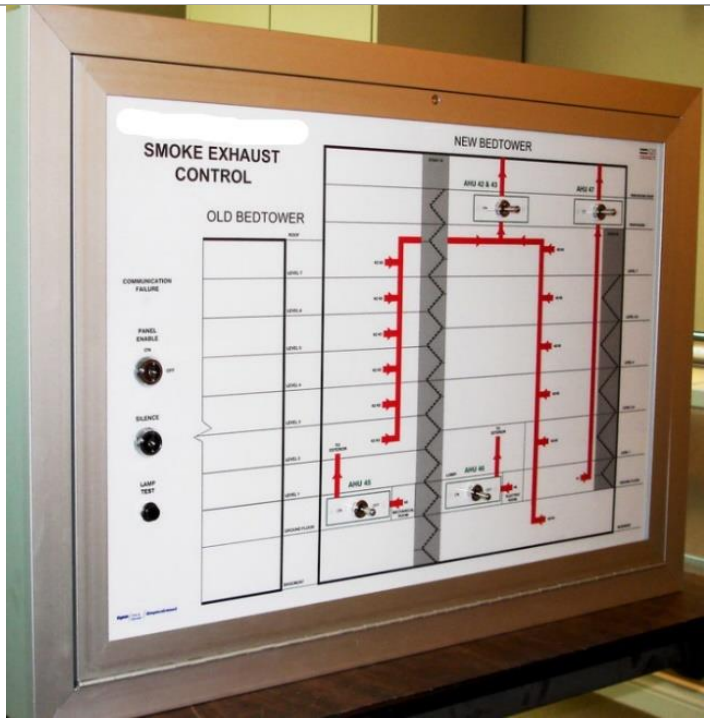

Figure 3 – Smoke control schematic

As a minimum, the diagram should include:

- zone smoke control
- stair pressurisation
- car park ventilation
- kitchen exhaust
- any other mechanical systems required to operate in fire mode.

The information should be clear and concise – remember that our firefighters aren't engineers.

Don't include any information not related to smoke control systems.

Smoke/fire curtains and other movable partitions

Put controls for any smoke/fire curtains or movable partitions (designed to prevent the spread of fire and/or smoke) in the FCC.

Label these clearly and include a schematic plan that clearly shows

- where they are in the building
- their status (open/closed)
- how they are designed to work together in certain zones (i.e. how they control smoke movement in certain zones/areas).

4.4.3. Information and communication

Lift system

The FCC should have a remote lift supervisory panel showing the status and location of all lifts. It may also have manual controls for the lifts, but these don't negate the requirement for the lift car to have its own controls.

For more information on lifts, see F5-08 GD FFO Lifts.

Emergency generator

Life safety systems should keep running when the mains power is off.

Supervisory panel

Emergency generators or UPS should supply back-up electrical power for life safety systems such as fire alarm systems, fire pumps, smoke control systems, exit signs, emergency lighting, lifts, and pressurisation systems for vertical openings, etc.

Firefighters need to monitor the emergency generator to prevent power loss during the incident, so you should provide a panel showing the emergency generator's status

Figure 4 – Emergency generator supervisory panel

Refuge area

The FCC should have a direct phone or intercom connection to every designated refuge area in the building.

Communications

To communicate reliably with people inside and outside the building, we need:

- a standard directly connected external phone (landline)
- a Warden Intercom Phone WIP phone (where fitted)
- area of refuge communications (where included)
- a public address (PA) system so we can give instructions to occupants of specific zones or floors.

Note: We recommend you install leaky co-axial cable, as this is the best way to facilitate our internal communications with our ~~IGC (~~incident ground communications (IGC) radios.

See F5-03 GD FFO Radio communications for more information.

Plans and schematics

We need you to provide to us hard copies of building plans, including fire design drawings. These must be at least A3 size, full colour and laminated.

To view these plans, we will need a plan layout table. This should be angled (raked) and big enough for laying out plans, tactical fire plans, building plans and any other relevant documents.

We also need the following information:

- cause and effects matrices for the fire detection and alarm system, ventilation system and lift systems
- a copy of the approved building evacuation scheme
- a drawing highlighting the boundaries of the evacuation zones
- a drawing showing any designated areas of refuge where occupants may be waiting for assistance.

It is likely that in the future electronic plans that can interrogate 3D models, etc., may be a suitable alternative for us. Where provided, these should have simple user interfaces that are intuitive for us to use and pre-loaded on a device available within the FCC.

Note: Where possible, we need a site representative with access to detailed site information and knowledge of the systems to be available to assist us.

4.5. Ancillary equipment

Equipment

Other equipment or items that will help us manage the emergency:

- a blackboard or white board not less than 1200 mm wide x 1000 mm high
- a pin board not less than 1200 mm wide x 1000 mm high
- building security, surveillance and management systems, including CCTV, provided they are completely segregated from all fire-related systems. Access to security cameras may also help us monitor fire development – this will help us make decisions and assist specialist fire investigators to determine how the fire started
- screens to monitor media, weather, social media, etc.
- control for all other utilities in the building, e.g. heating, ventilation and air-conditioning (HVAC) – particularly where these are not part of, or integrated with, the smoke management system
- schematics/diagrams for plumbed fire systems, electrical services, plumbing, HVAC.

Internal building access

We need to get into a building quickly in an emergency. There are a couple of ways to do this:

- give us access to keys, swipe cards, fobs or combinations for all parts of the building, along with an up-to-date contact list of tenants/occupants/businesses within the building.
- install a single switch in the FCC which disables all the locks in the building.

  This keeps the building secure until we arrive and means we won't need to break in once we get there.

Utilities

The FCC should have master emergency control panels, visual indicators and remote switching controls for gas and electrical supplies.

4.6. Equipment not permitted in the FCC

We recommend that you don't locate the following in the FCC, but these may be in rooms accessible from the FCC instead:

- Internal combustion engines
- Pumps
- Sprinkler control valves
- Additional storage of any kind
- Any battery UPS (where possible).

5. Recommendations

Location	• We encourage you to engage with us early in the concept/FEB stage to discuss what we need from the FCC. • We strongly recommend putting an FCC in any building that is multi-storied, large footprint, or complex in design. • Buildings over 60 m or 20 storeys high **must** have an FCC. In these buildings, the FCC should be in a separate building or room. • An FCC should only be used for controlling emergency activities. However, in large complexes (e.g. hospitals) and modern taller buildings, the FCC can be co-located in the security control room. • The FCC should be on the same level as our main entry point to the building, near the lobby or another agreed location. • The FCC needs to be located within five metres of the fire alarm panel or main entrance to the building. • The FCC also needs to have direct egress from any part of its floor to a public road or open area.
Design	• FCCs need a FRR of 120 minutes or the burnout for the structure (whichever is higher). • The only penetrations should be those required for FCC operation and these should be treated with fire stopping rated not less than the surrounding surfaces. • All doors should be fire rated appropriately for the cell, have self-closers and be accessible with a Lockwood 197 key. • The FCC should be big enough for firefighters to access building plans and tactical plans while wearing firefighting PPE – the minimum size must be at least 8 m^2 with a minimum dimension of 2 m. • There should be suitable ventilation with a minimum of 30 changes per hour with any door open. • Ambient sound levels within the FCC shouldn't exceed 50 dB(A) when all the fire protection equipment is operating in emergency mode (including ventilation systems). • The FCC should be soundproof with a minimum STC 65 rating. • Sound levels above should be measured for enough time to include all noise sources, (a minimum of 60 seconds can be used except where there is significant variation). • Power to the FCC must be connected to the supply side of the building feed and/or supported with a back-up power supply. • FCCs require good lighting with at least 500 lux over any tables/areas for reading plans. • Label the FCC clearly with easily located signage with the words Fire Control Centre.
Equipment and functionality	• All interfaces between fire protection systems, including building services systems, should be correctly engineered and mapped for our reference. • The FCC should house the main fire alarm panel (FAP) with appropriate functionality, including any EWIS or analogue addressable control, for the entire building. • Intelligent systems need to have simple, user-friendly interfaces that allow us to maximise the systems' capabilities.

- The smoke management system should have a clearly marked FFCP and schematic diagrams that display the function of the air handling system.
- The FFCP should have manual overrides for all fan, ventilation and air-handling systems, including dampers.
- Smoke curtains or other smoke control partitions should have status indicators and controls.
- All installed fire pumps should have controls and visual indicators showing their status.
- A remote lift supervisory panel should show the status and location of all building lifts.
- A monitoring panel should show the status of the emergency generator or UPS status.
- Monitoring and communication capability with any designated areas of refuge within the building.
- Have access to an externally connected phone, WIP phones (where fitted) and consideration given to the use of a PA system.
- Copies of building plans including fire design drawings, fire alarm/suppression systems, floor plans, blueprints, service area access diagrams etc. Ideally with electronic plans offering the ability to interrogate 3D models etc.
- Copy of the approved evacuation scheme.

Additional equipment

- Access keys/swipe-cards/fobs/combinations for all parts of the building.
- Contact lists for building occupants responsible for tenancies.
- Have fire service control for all other utilities in the building e.g. HVAC.
- Schematics/diagrams, electrical services, plumbing, heating, ventilation and air-conditioning (HVAC).
- Blackboards, whiteboards, pin-up boards etc.
- CCTV and access to security displays systems.
- Screens to monitor TV channels, weather and social media etc.
- Controls/monitoring for other building systems – segregated from fire system monitoring/control.
- Have emergency or control for emergency utility supply for the entire building.

5.1. Completing the firefighting facilities checklist

Completing the checklist

When completing **F5 SC Part C: 6 Fire Control Centre** of the firefighting facilities checklist (FFFC), you should state what equipment will be installed and clearly outline where it will be located. This will allow us to understand the proposed layout and ensure that it is installed in the most appropriate location for firefighting operations.

Remember that all these systems are put in place for our use in emergency situations and should be located in consultation with us.

5.2. Diagrams and photographs

Schematic of a typical fire control centre

Dimensions and content in this illustration show compliance with the NCC 2016 Building Code of Australia and is shown as a guide only.

This schematic has been included as a reference to the type of items Fire and Emergency New Zealand would expect in an FCC ~~fire control centre~~, in comparison with what is required under the NCC Australia, however this should be discussed at an early stage of the FEB design phase with operational representatives.

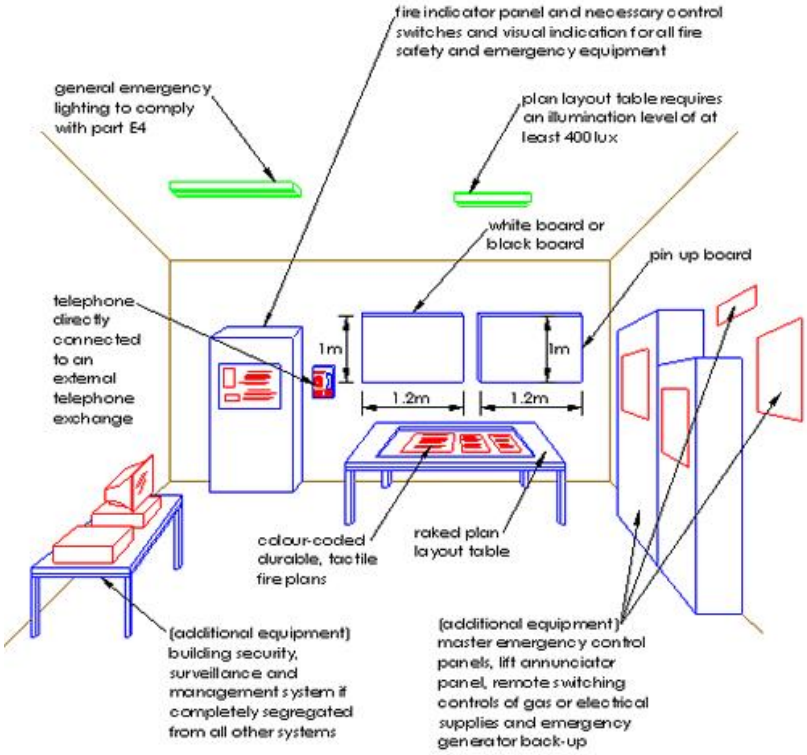

Figure 5 – FCC size and contents (illustrative only)

Typical FCC equipment

Figure 6 – Some of the equipment found in a typical FCC

Figure 7 – Sky Tower FCC

EWIS panels

Figure 8 – EWIS panel with analogue addressable display

6. Related information

6.1. Designers' Guide to Firefighting Operations

- F5 01 GD FFO Introduction
- F5-02 GD FFO Emergency vehicles access
- F5-03 GD FFO Radio communications
- F5-04 GD FFO Fire alarm panels
- F5-05 GD FFO Building hydrant systems
- F5-06 GD FFO Automatic sprinkler systems
- F5-07 GD FFO Stairs in buildings
- F5-08 GD FFO Lifts
- F5-09 GD FFO Fire Control Centres
- F5-10 GD FFO Evacuation and rescues
- F5-11 GD FFO Water supplies
- F5-12 GD FFO Construction, refurbishment and demolition sites
- F5-13 GD FFO Multi-tiered vehicle stacking buildings
- F5-14 GD FFO Firefighting shafts in taller buildings

6.2. Legislation

- Fire and Emergency New Zealand Act 2017
- Building Act 2004
- Building Regulations 1992 > NZ building code > Fire safety

~~Fire and Emergency New Zealand Act 2017~~

6.3. Standards

- AS 1670.1:2018 Installation of fire systems
- AS/NZS 1668.1:2015 The use of ventilation and air conditioning in buildings – Part 1: Fire and smoke control in buildings
- SNZ PAS 4509:2008 New Zealand Fire Service firefighting water supplies code of practice
- NZS 4510:2008 Fire hydrant systems for buildings
- NZS 4512:2021Fire detection and alarm systems in buildings
- NZS 4541:2020 Automatic fire sprinkler systems

6.4. References

NCC 2016 Building Code of Australia

Document information

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January 2022	Format update and SME content review
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