Fire Protection Policy

This policy in effect as of 27 June 2013
Table of contents

Purpose........................................................................................................................................... 3
Background to changes......................................................................................................................... 3
Effective dates.................................................................................................................................... 3
Overview........................................................................................................................................... 3
Fire engineering brief (FEB) ............................................................................................................... 7
Fire engineering brief (FEB) process.................................................................................................. 7
Building assessments and fire reports................................................................................................ 9
Amendments to building consents...................................................................................................... 11
All new building work must be designed in accordance with C1-C6................................................. 11
Sites with multiple buildings............................................................................................................. 11
Fit-outs............................................................................................................................................... 12
Schedule 1: Exemption (ag) - Interior non-residential alterations...................................................... 13
Requesting an exemption under Clause K of Schedule 1................................................................. 15
NZ Fire Service (NZFS).................................................................................................................... 16
Section 112 alterations to existing buildings...................................................................................... 18
Section 115 change of use.................................................................................................................. 19
Building consent documentation......................................................................................................... 20
Risk groups vs. purpose groups.......................................................................................................... 22
Regulatory reviews............................................................................................................................. 23
Who appoints the reviewer.................................................................................................................. 23
Conflicts of Interest............................................................................................................................. 23
Quality Control................................................................................................................................... 24
Documentation..................................................................................................................................... 24
Fire design review process.................................................................................................................. 24
Purpose
In April 2013, the Ministry of Building Innovation and Employment\(^1\) (MBIE) introduced significant changes to the Building Code (the Code) in respect to the fire protection of buildings. These changes include the introduction of six new Code clauses and supporting documents.

It is important that there is an understanding of Council's expectations in respect to the process involved for fire designs. This document provides guidance for building owners, designers and reviewers in regards to a base level of information required for the design process. Council's Producer Statement Policy must be read in conjunction with this policy if producer statements are offered as part of the design process.

Background to changes
Under the old Code clauses, performance requirements were not specific or quantified. The design process was inefficient, did not allow for innovation and designs were often disputed resulting in costly delays.

The new Code provides for greater efficiency because it is clearer and more specific providing more design choices, which should result in less delays and cost savings.

Effective dates
All applications lodged for building consent from 10 April 2013 onwards must be designed in accordance with the new Building Code clauses for Protection from Fire (C1-C6).

Exception:
If a building consent was in the system (i.e. lodged or approved) prior to 10 April 2013 and was designed using C1-C4; the amendment may also be designed to C1-C4.

Overview
C1-C6 is not intended to provide a higher level of safety than previously existed. Compliance can be achieved by following one of two design solutions; the Acceptable Solutions or the Verification Method (C/VM2). Where neither of these solutions is appropriate, there is a third option, specific design.

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\(^1\) Previously Department of Building and Housing (DBH)
1. Acceptable Solutions

A design based on the Acceptable Solutions, must fully comply with all the requirements of the Acceptable Solutions. It cannot incorporate aspects of the verification method to demonstrate compliance with the New Zealand Building Code (the Code), except where the only non-compliance relates to the prevention of horizontal spread of fire. In this instance the C/VM2, methodology may be used.

In addition, the existing building must comply as nearly as reasonably practicable in terms of means of escape from fire and access and facilities for disabled persons.

The seven Acceptable Solutions are based on risk groups

<table>
<thead>
<tr>
<th>Risk group</th>
<th>Acceptable Solution</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>SH</td>
<td>C/AS1</td>
<td>Houses and small residential</td>
</tr>
<tr>
<td>SM</td>
<td>C/AS2</td>
<td>Other residences and accommodation</td>
</tr>
<tr>
<td>SI</td>
<td>C/AS3</td>
<td>Places of care or detention</td>
</tr>
<tr>
<td>CA</td>
<td>C/AS4</td>
<td>Places where people undertake activities other than working</td>
</tr>
<tr>
<td>WB</td>
<td>C/AS5</td>
<td>Places where people work</td>
</tr>
<tr>
<td>WS</td>
<td>C/AS6</td>
<td>Places where people work with higher risk / storage</td>
</tr>
<tr>
<td>VP</td>
<td>C/AS7</td>
<td>Places for cars, trucks, boats etc.</td>
</tr>
</tbody>
</table>

When submitting a design for the Acceptable Solutions additional information maybe required; please refer to the table below which summarises these requirements.

<table>
<thead>
<tr>
<th>Acceptable Solutions C/AS1-7</th>
<th>Fire engineering brief (FEB)</th>
<th>Building assessment / fire report</th>
<th>NZFS design review required (Refer Gazette Notice No. 49 May 2012)</th>
<th>Approval</th>
</tr>
</thead>
<tbody>
<tr>
<td>New buildings</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>PS1 maybe accepted at Councils discretion Alternatively Approval by Council officers</td>
</tr>
<tr>
<td>Alterations to existing buildings</td>
<td>N/A</td>
<td>Yes</td>
<td>Only if design has more than a minor effect on a specified system relating to fire safety</td>
<td></td>
</tr>
<tr>
<td>Change of use that results in an alteration</td>
<td>N/A</td>
<td>Yes</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Note:
- All new building work must fully comply with the New Zealand Building Code

Requirements for fire-engineering briefs, building assessments and New Zealand Fire Service are described elsewhere in this document.
2. Verification Method

The Verification Method (C/VM2) provides for 10 design scenarios; each scenario must be considered and designed for, where appropriate, in order to comply with the Code clause Protection from Fire.

The C/VM2 framework is located on the Ministry's website; the 10 design scenarios are:
- Blocked exit
- Unknown threat in unoccupied room
- Concealed space
- Smouldering fire
- Horizontal spread of fire
- Vertical spread of fire
- Surface finishes
- Fire-fighting operations
- Challenging fire; and
- Robustness check

When submitting a design for the C/VM2, please refer to the table below to determine additional requirements.

<table>
<thead>
<tr>
<th>Verification method C/VM2</th>
<th>Fire engineering brief (FEB)</th>
<th>Building assessment / fire report</th>
<th>NZFS design review required (Refer Gazette Notice No. 49 May 2012)</th>
<th>Approval</th>
</tr>
</thead>
<tbody>
<tr>
<td>New buildings</td>
<td>Yes</td>
<td>N/A</td>
<td>N/A</td>
<td>PS2 from CPEng fire engineer listed on Auckland Council PS Register Alternatively Approval by Councils fire engineer</td>
</tr>
<tr>
<td>Alterations to existing buildings</td>
<td>Yes</td>
<td>Yes</td>
<td>Only if design has more than a minor effect on a specified system relating to fire safety</td>
<td></td>
</tr>
<tr>
<td>Change of use that results in an alteration</td>
<td>Yes</td>
<td>Yes</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Notes:
- The designer must submit flowcharts for each of the 10 design scenarios
- The designer may be a chartered professional engineer experienced in fire engineering; if not, the design must be peer reviewed by a chartered professional engineer experienced in fire engineering
- Depending on the complexity of the proposed building work, a meeting to discuss the FEB may be required (refer to the FEB process for further details)
- All C/VM2 applications are subject to the FEB process performed by Council officers; this is a Regulatory requirement and can not be undertaken by the peer reviewer
3. **Specific design from first principles**

Specific designs may be used where a building is so unique that it cannot be designed using either the Acceptable Solutions or C/VM2. Applicants must first obtain Council approval before proceeding with the design. The designer must put a case to Council explaining the reasons for going down this path; designs must be based on first principles.

When submitting a specific design, please refer to the table below to determine additional information required.

<table>
<thead>
<tr>
<th>Specific design from first principles (alternative solution)</th>
<th>Fire engineering brief (FEB)</th>
<th>Building assessment / fire report</th>
<th>NZFS design review required <em>(Refer Gazette Notice No. 49 May 2012)</em></th>
<th>Approval</th>
</tr>
</thead>
<tbody>
<tr>
<td>New buildings</td>
<td>Yes</td>
<td>N/A</td>
<td>Yes</td>
<td>PS2 from CPEng fire engineer listed on Auckland Council PS Register</td>
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<tr>
<td>Alterations to existing buildings</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Alternatively Approval by Councils fire engineer</td>
</tr>
<tr>
<td>Change of use that results in an alteration</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td></td>
</tr>
</tbody>
</table>

**Notes:**
- Council approval is required before commencing with the preliminary design
- The designer may be a chartered professional engineer experienced in fire engineering; if not, the design must be peer reviewed by a chartered professional engineer experienced in fire engineering
- All specific design applications are subject to the FEB process and must be reviewed by Council officers; this is a Regulatory requirement and can not be undertaken by the peer reviewer
Fire engineering brief (FEB)
The FEB is a documented process that defines the scope of work for the fire engineering analysis.

The following matters should be included in the FEB:
- Principal building characteristics
- Dominant occupant characteristics
- Hazards and preventative measures
- Trial designs for evaluation
- Approach and methods of analysis
- Acceptance criteria and safety margins
- Extent of analysis (all or part of the building)
- Design fire locations
- Design fire parameters (are they in accordance with C/VM2 or appropriate for proposed use)

Fire engineers should refer to the International Fire Engineering Guidelines for further information regarding the content of an FEB.

Fire engineering brief (FEB) process
The purpose of this process is to identify and discuss fire-safety design and acceptance parameters and to get agreement in principle, at an early stage with all stakeholders. Verification of the design is not required at this stage.

Acceptable Solutions are not subject to the FEB process whereas all designs involving C/VM2 and specific design (new buildings, alterations to existing buildings and change of use) are subject to this process. The FEB process is a regulatory function and must be undertaken by a Council officer. Peer reviewers are not permitted to carry out this function on Councils behalf.

Designers must complete the online form to initiate the FEB process. Council officers will review the FEB documentation to determine whether sufficient information has been provided to commence the process. If documentation is adequate, Council officers will then determine whether a meeting is required.
- Refer to our website to locate the online form AC1027 Application to commence FEB process
- Applications are sent to the FEB team via email

The Regulator (Council) must agree with the design concept contained within the FEB. If the Regulator does not agree to the FEB, the reasons for the disagreement need to be documented (reasons must be valid and not a personal preference).

Meeting location
If a meeting is required, it will normally be held at 35 Graham Street, Auckland; alternatively, meetings may be held elsewhere by mutual agreement. It is possible for the FEB process to be conducted via email (this will be determined by the officer reviewing the FEB documentation).

If a meeting is required, it is preferable that all stakeholders attend; however, there is no requirement for them to do so. As a minimum, Council would expect the fire engineer, peer reviewer and NZ Fire Service to attend the meeting. Stakeholders may also attend the meeting via telephone conferencing.
Stakeholders include:
- The Regulator (a staff member assumes the role of the ‘Regulator’ and ‘BCA’ on behalf of Council)
- Client or client representative
- Architect or designer
- Fire engineer
- Specialists (e.g. emergency lighting, warning systems, etc)
- Peer reviewer (means a chartered professional engineer experienced in fire design and listed on Auckland Councils producer statement register)
- New Zealand Fire Service
- BCA (Council)
- Insurance representative
- Building management
- Tenant

Fees for the FEB process are set according to Auckland Council’s Schedule of Fees and Charges and are a set fee based on a one-hour meeting; charged as per the fee for a pre-application meeting. If the meeting extends beyond one hour, additional fees are payable and are based on the hourly rate chargeable for the staff member in attendance. The cost of reviewing the application prior to the meeting is also payable based on an hourly rate for the staff member concerned.

To initiate the FEB process, the following documentation is required:
- Site plan showing the location of the building under consideration, the location of other buildings, the location of fire hydrants, alarm panel, NZFS attendance point, etc
- Floor plan(s) showing the existing ‘as-built’ layout
- Proposed floor plans of each level showing locations of fire and/or smoke separations including fire and smoke stop doors including self closers and approved hold open devices
- Floor plans on each level showing the primary entrance, all exits and escape routes
- Floor plans of the building showing design fire scenario locations
- Cross-section showing escape heights
- Building warrant of fitness (existing buildings)
- FEB
- Flowcharts (C/VM2 only)

Documentation must be included as an attachment and submitted with the online application.

<table>
<thead>
<tr>
<th>FEB process response timeframes vs. activity request</th>
<th>Timeframe</th>
</tr>
</thead>
<tbody>
<tr>
<td>Duration between receiving notification and deciding whether a meeting is required</td>
<td>1 working day</td>
</tr>
<tr>
<td>* if a meeting is required, mutually agreeable time arranged</td>
<td></td>
</tr>
<tr>
<td>Duration between receiving notification and review of information</td>
<td>10 working days</td>
</tr>
<tr>
<td>* Provides sufficient time to review information submitted with FEB</td>
<td></td>
</tr>
<tr>
<td>Duration between discussing the FEB process and distributing the minutes to all attendees. NZFS have advised they will respond within 10 working days of receiving FEB documentation (Council recommends that the designer supplies NZFS with information at the same time as making an application for FEB process)</td>
<td>1 working day</td>
</tr>
<tr>
<td>Duration between conducting the FEB process and updating Pathway (Council’s computer system) with the meeting records</td>
<td>1 working day</td>
</tr>
</tbody>
</table>

Note:
- A copy of the letter advising the outcome of the FEB process must accompany the building consent application
- The FEB process is a regulatory function and must be undertaken by a Council officer; this is a Regulatory requirement and can not be undertaken by the peer reviewer
Building assessments and fire reports
There are two mechanisms for reporting on the status of fire safety features contained within an existing building; they are
- A building assessment; or
- A fire report

The reporting mechanism adopted will depend on which legislation the building was designed and constructed under. The purpose of the document produced is to provide an overview to Council identifying the current level of fire safety precautions that exist in a building in order to assess compliance with the Code clauses C1-C6 Fire Protection.

Building assessments
Building assessments are used for buildings designed and constructed under the Building Bylaw Regime – NZS1900 Chapter 5 (prior to the inception of the Building Act 1991).

The building assessment should address the following matters:
- Building use and occupancy
- Number and locations of final exits
- Detection systems
- Alarm systems
- Emergency lighting provision
- Passive fire protection locations
- Smoke control systems
- External fire spread (for change of use)
- Lift controls for fire service use
- Hydrant systems
- Refuge areas
- Fire systems centres
- Section 112

Building assessment steps

**Step 1:**
- Assess the existing building (building assessment)

**Step 2:**
- Assess the existing building against the current Building Code requirements using the Acceptable Solutions or the Verification Method

**Step 3:**
- Assess level of compliance (gap analysis)

Once the building has been assessed, the designer can commence the design process using either of the compliance documents (C/AS1-7 or C/VM2), to establish compliance.

Ideally as well as textural reporting, the building assessment will include marked drawings, which provide sufficient pictorial information to identify key systems and locations.

**Note:**
- All new building work must be designed in accordance with C1-C6
- An assessment of s.112 must be carried out
**Getting a building assessment before work is proposed**

An owner of a building constructed under the Building Bylaw regime may choose to get a building assessment done on their building, well before any building work is proposed. This is a sensible idea, as the owner will know with some certainty whether their building needs upgrading and will be alerted to any potentially risks or issues.

A copy of the building assessment can be placed on the property file for future reference.

If following the building assessment, the building is identified as being dangerous, a building consent should be applied for and the work carried out as soon as practically possible.

**Fire reports**

For buildings designed and constructed under the Building Act 1991 or the Building Act 2004, the designer may use the base (original) fire report in lieu of performing a building assessment. The reason that a base fire report is acceptable is because there has been no change to the mandatory provisions of the Building Code.

Where the building has had alterations carried out, post it’s original construction such as an addition, the base fire report must be updated and describe the current level of fire protection throughout the whole of the building.

**Note:**

- If a comprehensive fire report is not available, a building assessment must be provided
- The base fire report must be updated whenever an alteration occurs
- A fire report cannot be used for buildings constructed under the Building Bylaw regime *unless* it can be proven that the fire report addresses the whole of the building
- An assessment of s.112 must be performed where the building was designed and built using C1-C4
- All new work must be designed in accordance with C1-C6

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2 Although there have been changes to the compliance documents (Acceptable Solutions), the mandatory provisions of the Code have not changed with respect to the fire safety measures in a building

3 An alteration means any building work to re-build, re-erect, repair, enlarge or extend the building
Amendments to building consents
Where there is an amendment to an existing building consent (lodged or approved prior to 10 April 2013), and the amendment has been designed using the old C Documents (C1-C4); the amendment may be designed in accordance with C1-C4.

All new building work must be designed in accordance with C1-C6
Where new building work is proposed and an application is made for building consent, irrespective of whether a code compliance certificate is issued for the building; the new building work must be designed in accordance with C1-C6.

Sites with multiple buildings
Where building work is being carried out on a single building, which is part of a group of other buildings, the building assessment / fire report is only required on the actual building which is the subject of the work.

- E.g., a gymnasium is being altered in a school, the building assessment / fire report only needs to relate to the gymnasium (in this scenario, the gymnasium must be freestanding and not attached to other buildings or linked to specified systems within the complex).

Note: it is important for the designer to consider whether any specified systems within the subject building are integrated with other buildings in the complex. In this instance, information must be provided about those specified systems with this application.
Fit-outs:
This section applies to building work, which requires a building consent. Before reading this section, we recommend that you refer to the following two sections about exemptions to determine whether a building consent is required.

A fit-out is defined as new building work within an existing space, which does not affect the structural integrity of the existing superstructure; affect the means of escape from fire for the existing superstructure; affect the means of escape in terms of travel distance for the fit out (e.g. new walls, partitions, office furniture, etc) or create new fire cells remove or reduce the compliance of any specified systems (sometimes in a fit out everything is stripped out and replaced; as long as compliance is not reduced, the work can be completed as part of the fit out) involve a change of use involve installing a racking system

In this instance, the fit-out is not an alteration to an existing building; however

- a fire report will be required for any new building work, (if applicable); and
- a statement from a chartered professional fire engineer must be provided confirming that the fit out has no effect on any existing fire safety features

An assessment of s.112 is not required; however, all new building work must comply with all provisions of the Code. (This is because there has been no change to the Building Act or D1 Access and Facilities for Disabled Persons since this legislation was introduced and the building will already comply with these provisions of the Code)

Fit-out for an existing building constructed under the Building Bylaw regime
If the fit out relates to an existing building, constructed under the Building Bylaw regime and the building work requires a building consent, a building assessment is required

- A fire report will be required for any new building work, if applicable
- An assessment of s.112 is required, unless an assessment of s.112 has previously been considered and the assessment was for the whole of the building. (This is because alterations to existing buildings must be assessed under the Building Act and D1 Access and Facilities for Disabled Persons).

Note:

- In all circumstances, the new building work must be designed in accordance with C1-C6
- If the fit-out work includes other building work on the existing building, then the fit-out exemption does not apply
Schedule 1: Exemption (ag) - Interior non-residential alterations

Schedule 1 provides a number of exemptions for building work that does not require a building consent. Exemption “ag” allows for non-residential buildings to be altered internally, without the need for a building consent.

Note: a building consent is required if the proposed building work affects or modifies any of the following aspects and reduces compliance with the Building Code.

- Means of escape from fire
- Protection of other property
- Sanitary facilities
- Structural performance
- Fire-rating performance
- Access and facilities for people with disabilities; or
- Modifying or affecting any specified systems

An owner may choose to put a record of the exempt work on file for record-keeping purposes.

- If an owner chooses to put a record of exempt building work on file, they should use application form AC2111 Record of exempt building work; this form is on our website.
- There is a small charge to cover the cost of scanning this record; Council do not review the application and merely place the record on file.
- No letters or documents are issued acknowledging acceptance of this record; however, if required a date stamped copy of the application form can be retained by the owner as a record of Council having receiving this information.
- Detailed plans should accompany the application.

At present, there is very little guidance available to Council as to what constitutes minor work, we are therefore reliant on guidance information published by the Department of Building and Housing (now MBIE). Regardless of whether a building consent is required, all building work, must comply with the Building Code.

A building consent is not required in the following situations:

- The owner of a retail store decides to do an internal fit out that includes new linings and finishes, shelving, clothes racks and simple low partitions. The escape routes are not reduced (e.g., total open paths stay the same) and the building work does not affect any existing specified systems.

- A restaurant undergoes an alteration that includes redecorating and new seating areas. The work does not affect escape routes (e.g., total open paths stay the same) and the building work does not affect any existing specified systems.

- Installing a window in a non-load bearing partition between a factory storage room and hallway to allow natural light into the hallway

- Replacing linings and finishes within a retail shop where the work does not affect compliance with any fire-rating requirements and surface finishes comply with the Building Code

- Removing a sink and a wash hand basin from a disused cleaners’ cupboard in a shopping complex, where the removal of the hand basin does not reduce compliance with Building Code provisions relating to sanitary facilities, as other fully complying facilities are available nearby in the complex.
Note, any alteration work to sanitary plumbing must be carried out in accordance with the Plumbers, Gasfitters, and Drainlayers Act 2006

Installing new walls and partitions (even non-load bearing ones) close to sprinkler heads may reduce the effectiveness and compliance of the sprinklers, which are part of a specified system. Installing new walls or partitions may also increase total open paths. Work of this nature will necessitate a building consent; however, where the work is considered to be relatively minor, there is provision under Clause K of Schedule 1 for Council to grant an exemption (refer next section).
Requesting an exemption under Clause K of Schedule 1

Where the proposed building work is minor and / or the cost of applying for a building consent becomes prohibitive, an application under Clause K maybe considered. Clause K provides Council with the ability to exempt building work from requiring a building consent.

If an owner wishes to apply for an exemption, they should use application form AC2119 Application to request an exemption of building work under clause K of Schedule 1. The same level of information required for a building consent is required in support of the application together with the justification for seeking an exemption.

- A statement from the Fire Engineer must be provided confirming that the building work will not reduce or have an effect on existing fire safety features
- If an exemption is granted, an assessment of s.112 is not required

Council will review the application and grant or refuse the request accordingly; a deposit is payable at lodgement. The full cost of reviewing and determining whether an exemption is viable is based on an hourly rate. Please refer to the fee schedule for further information about fees and charges.

An exemption will only be considered for minor works such as fit-outs e.g. the installation of ceilings, floors, furnishings, and partitions into the existing shell of a building, which do not affect the existing superstructure of the building or means of escape or access and facilities for disabled persons. Please also refer to guidance under the section heading ‘New Zealand Fire Service’.

Examples of situations where an exemption maybe granted

- A shop within a mall is changing hands and the new tenant wants to install a new shop front, shelving and partitions. The replacement of the shop front involves a structural design for the new glass; the work does not impact on the superstructure of the existing building (structural or otherwise) and has been designed by a chartered professional engineer who has supplied a PS1

- An office on level nine of a 14-storey office / retail block has a need for additional offices. The space underwent a significant refurbishment in 2011, which was consented. The tenants needs have changed and additional offices are required within the existing fire cell. The work involves reconfiguring three of the existing offices to create five smaller offices. The location of the new walls will have an impact on the location of sprinkler heads, which will need to be moved / replaced; the work on the system does not affect flow rates and has no effect on egress routes

- An owner is proposing to carry out $1,500 of work on a building (shop) that was first constructed in 1953, which has never been altered during its life; the building is not considered to be earthquake-prone. The work involves putting in a new shop frontage, which is larger than the original window but does not increase the size of the building envelope and taking out an internal wall and replacing it with a steel beam. The work has been designed by a chartered professional engineer who has supplied a PS1
NZ Fire Service (NZFS)
The NZFS have two roles where fire designs are involved; firstly, they are a stakeholder in the FEB process and secondly they are required to review certain applications during the building consent process.

FEB process – stakeholder role
NZFS provide feedback from two viewpoints; they are

- the suitability of proposed assessment methods; and
- the suitability of fire fighting facilities

The table below summarises the application types that may require input from the NZFS

<table>
<thead>
<tr>
<th>Application type</th>
<th>Acceptable Solutions</th>
<th>C/VM2</th>
<th>Specific design</th>
</tr>
</thead>
<tbody>
<tr>
<td>New building</td>
<td>No</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Alteration to existing building</td>
<td>No</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Change of use</td>
<td>No</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Subdivision</td>
<td>No</td>
<td>Yes</td>
<td>Yes</td>
</tr>
</tbody>
</table>

NZFS contact details for this process: engineers@fire.org.nz

Building consent process - review role
Section 46 of the Building Act specifies that certain applications for building consent must be provided to the NZFS for comment. The New Zealand Gazette 3 May 2012 (No. 49) defines the types of application that must be sent to NZFS.

The NZFS have 10-working days to review these applications and provide a memorandum to the BCA. This timeframe sits within the 20-working day statutory timeframe that the BCA has to process an application for building consent. To expedite this process, applicants should identify that their application requires a review by the NZFS.

The table below summarises the application types that must be sent to the NZFS (refer to the Ministry of Building Innovation and Employments Building Controls Update #132 for a more detailed explanation)

<table>
<thead>
<tr>
<th>Application type</th>
<th>Acceptable Solutions</th>
<th>C/VM2</th>
<th>Specific design</th>
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<tbody>
<tr>
<td>New building</td>
<td>No</td>
<td>No</td>
<td>Yes</td>
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<tr>
<td>Alteration to existing building*</td>
<td>Only if the design has more than a minor effect on a fire safety system</td>
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<td>Yes</td>
</tr>
<tr>
<td>Change of use</td>
<td>Only if the design has more than a minor effect on a fire safety system</td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td>Subdivision</td>
<td>Only if the design has more than a minor effect on a fire safety system</td>
<td>Yes</td>
<td></td>
</tr>
</tbody>
</table>

*An alteration means any building work to re-build, re-erect, repair, enlarge or extend the building; a fit-out may involve a similar type of building work. However, each term is used in a different way in the Gazette; the reference to an alteration in clause 1(c) means that building consent applications for alterations that affect the fire safety systems must be reviewed by the NZFS.
An example of minor effects on the fire safety systems could be the alteration of the tone or type of sounding or visual alert for an alarm; relocating a couple of smoke detectors or sprinkler heads and does not require a redesign of the sprinkler system hydraulics.

The reference to the term fit-out in the Gazette Notice is an exemption provision because a fit out is not considered to be an alteration to an existing building. This means that a fit-out for internal work only, which is the subject of a separate consent, does not need to be sent to the NZFS, if:

- the consent is for a fit-out for an existing retail tenancy for a second or subsequent tenant and the fit out has only a minor effect on the fire safety systems; or
- the fit out is the first fit-out of a new building, i.e. the space has not been previously occupied, the fit out works are considered to be a stage of construction leading to the building being completed and ready for use

Note:

- If the fit-out work includes other building work on the existing building, then the fit-out exemption does not apply

NZFS contact details for this process: reviews@fire.org.nz
Section 112 alterations to existing buildings

This provision of the Building Act has not changed; there has always been a requirement to consider s.112. For alterations to existing buildings, the designer must consider all of the building, not just the new building work and provide an assessment to Council. An alteration means any building work to re-build, re-erect, repair, enlarge or extend the building, it does not necessarily include a fit-out (refer to section on fit-outs for further clarification).

If the work does not need a building consent then there is no need to consider s.112; however, if a building consent is required the assessment should be rigorous and thorough. The emphasis should be on upgrading rather than finding reasons not to comply.

Most existing buildings will probably never fully comply with the Code; however, the intent of the legislation is to improve the building rather than to find reasons for it not to comply. S.112 assessments should be seen as an opportunity to bring the building closer to compliance with the Code.

All new building work must fully comply with the Code unless a waiver or modification is approved; for alterations, the building must perform no worse than it did before. Where the work is being carried out on a single building, which is part of a group of other buildings, the assessment of s.112 is only required on the building which is the subject of the work.

• E.g., a gymnasium is being altered in a school, the s.112 report only needs to relate to the gymnasium (note the gymnasium must be freestanding and not attached to other buildings)

For large multi-storied buildings, it may not be possible to inspect and report on every tenanted office space or apartment; however, the means of escape on each level must be inspected. This may include but is not limited to lifting ceiling panels to confirm fire separations, etc are in place.

The assessment must be against the requirements of the Building Code rather than the acceptable solutions. If the building does not comply with the Acceptable Solutions, compliance can be demonstrated using the C/VM2 process.

Note:

• for further guidance, refer to our Practice Note AC2226 S.112 and applying the term as near as reasonably practicable to existing buildings on our website; or
• the Ministry of Building Innovation and Employment’s website www.mbie.govt.nz
Section 115 change of use

Every building or part of a building has a ‘use’ that has been categorised by law. For the purposes of the Building Act, that use is specified in Schedule 2 of the Building (Specified Systems, Change the Use, and Earthquake-prone Buildings) Regulations 2005 (the Regulations).

Schedule 2 describes the uses for all or parts of buildings into four broad activity groups:
- crowd activities
- sleeping activities
- working, business or storage activities, and
- intermittent activities

A change of use occurs when:
- a building’s (or part of a building’s) use, as defined in the Regulations, changes from one use (the old use) to another (the new use), and
- the new use has more onerous or additional Building Code requirements than the old use.

Code requirements for the new use of a building maybe more onerous than the old use if there is a greater risk to life or the fire hazard is increased.

To demonstrate compliance with s.115 of the Building Act 2004, fire reports for existing buildings, must include an assessment of the means of escape from fire for the entire building. The report must cover the suitability of design elements including:
- exit doors, exit signs, emergency lighting, key locks issues, risk groups, occupant load, required alarm type for each fire-cell
- detailed floor plans depicting safe paths for each level of the building including basements (and any lifts serving the basement)

If applicable, in addition to the assessment under s.112, the ‘S’ rating and fire spread to the boundary must be evaluated.

The requirements for building alterations to existing buildings are set out in s.112 of the Building Act. However, the requirements of s.115 are more onerous. Therefore, if both a change of use and alterations are going to occur, the requirements of s.115 will usually apply and take precedence over s.112.

Note:
- for further guidance, refer to our Practice Note AC2205 Change of Use on our website; or
- the Ministry of Building Innovation and Employment’s publication, Change of Use, A guide for Christchurch City Council, which can be found on their website www.mbie.govt.nz
Building consent documentation

Producing quality documentation for building consent will significantly improve Council’s ability to process the application for building consent and ensure a seamless and efficient process. Fire safety design must be properly communicated and incorporated into the final design documentation submitted for building consent such that a decision can be reached.

The standard and quality of documentation must be in accordance with Practice Note 22 published by the Institute of Professional Engineers (IPENZ) and the Ministry of Building Innovation and Employment (MBIE), as guidance under s.175 of the Building Act 2004.

Practice Note 22 describes the type and extent of information required to record fire-design requirements, how to communicate these to other members of the design team and the type and extent of information required to support applications for building consent.

The practice note provides guidance about the form of design documentation with considerable emphasis on graphical communication, rather than the traditional textural based reports. It also lists expectations of the designers and their responsibilities for producing plans and specifications for construction.

Documentation must address the means of escape from fire for the entire building to demonstrate compliance with s.112 of the Building Act 2004.

The report must cover the suitability of design elements including:
- exit doors, exit signs, emergency lighting, key locks issues, risk groups occupant loads and types of alarm required for each fire cell; and
- include confirmation that there are no key locks on doors leaving tenancies or into safe paths (stairs, etc) and an evaluation of common spaces

Detailed floor plans must accompany fire reports depicting safe paths for each level of the building including basements (and any lifts serving the basement).

The Design team usually coordinates the various disciplines involved; however, because fire engineering overlaps so many other disciplines, the fire engineer must review all documentation, before the application for building consent is submitted.

Examples of how fire designs overlap with other disciplines:

<table>
<thead>
<tr>
<th>Design element</th>
<th>Designers responsibility</th>
<th>Reviewers responsibility</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fire resistance rating</td>
<td>The fire engineer specifies the fire resistance rating required</td>
<td>The reviewer checks the fire resistance ratings to ensure they are in accordance with the fire report</td>
</tr>
<tr>
<td></td>
<td>The structural engineer designs the required fire rating</td>
<td>The reviewer must confirm with the structural engineer that</td>
</tr>
<tr>
<td></td>
<td>The architect transfers the design information on to the drawings</td>
<td>o the design has the required fire resistance rating,</td>
</tr>
<tr>
<td></td>
<td></td>
<td>o the specific structural members have been identified on drawings; and</td>
</tr>
<tr>
<td></td>
<td></td>
<td>o the architect has specified a suitable fire rated system</td>
</tr>
<tr>
<td>Design element</td>
<td>Designers responsibility</td>
<td>Reviewers responsibility</td>
</tr>
<tr>
<td>-------------------------------</td>
<td>------------------------------------------------------------------------------------------</td>
<td>------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Smoke exhaust system</td>
<td>The fire engineer specifies the specific exhaust rate required</td>
<td>The reviewer checks the smoke extraction system to ensure it is in accordance with the fire report</td>
</tr>
<tr>
<td></td>
<td>The mechanical engineer designs the required smoke exhaust system</td>
<td></td>
</tr>
<tr>
<td></td>
<td>The architect transfers the design information on to the drawings</td>
<td></td>
</tr>
<tr>
<td>Fire separations and mechanical systems</td>
<td>The fire engineer specifies the fire separations and mechanical systems</td>
<td>The reviewer checks the mechanical drawings to ensure that fire dampers are provided at fire separations</td>
</tr>
<tr>
<td></td>
<td>The mechanical engineer designs the mechanical systems</td>
<td></td>
</tr>
<tr>
<td></td>
<td>The architect transfers the design information on to the drawings</td>
<td></td>
</tr>
<tr>
<td>Exit signage</td>
<td>The fire engineer specifies the location of exit signs</td>
<td>The reviewer checks the electrical drawings to ensure signage is in accordance with the fire report</td>
</tr>
<tr>
<td></td>
<td>The electrical engineer designs exit signage</td>
<td></td>
</tr>
<tr>
<td></td>
<td>The architect transfers the design information on to the drawings</td>
<td></td>
</tr>
<tr>
<td>Emergency lighting</td>
<td>The fire engineer specifies the location emergency lighting for certain areas of the building</td>
<td>The reviewer must check and confirm that the emergency lighting system meets the requirements of the fire report, is in the appropriate location and that the electrical engineer has provided a producer statement design</td>
</tr>
</tbody>
</table>

**Note:** The reviewer does not assume responsibility for the design of the elements involved but is responsible for verifying that the intent of the design has been met.

If intumescent paint is to be provided then it must be supported by detailed design information as to the applicability of the product including the supplier’s name and contact details. Fire-resistance rating(s) achieved; limiting steel temperatures; Hp/A ratio used for evaluation; volume of material supplied; DFT (dry film thickness) achieved for each element. A letter must also be provided from the supplier of the intumescent paint confirming that their product meets the requirements of the fire report and structural design as well as the Code.

When computer modelling is provided the designer shall provide a producer Statement (PS1), to confirm that the model used in the design (e.g. Branzfire or FDS5) is appropriate for the application, that the model represents the building geometry (and function) in the final building design and that the model demonstrates compliance to the Building Code. The PS1 shall be signed by a Chartered Professional Engineer. (Note the computer model shall be analysed appropriately for the design by the design engineer; it is not the role of the peer reviewer to perform the analysis)
Risk groups vs. purpose groups

**Risk groups** are listed in C/AS1-7 of the Protection from Fire clauses and are used to establish risk in terms of fire safety measures; they only apply to the Acceptable Solutions.

<table>
<thead>
<tr>
<th>Risk group</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>SH</td>
<td>Houses and small residential</td>
</tr>
<tr>
<td>SM</td>
<td>Other residences and accommodation</td>
</tr>
<tr>
<td>SI</td>
<td>Places of care or detention</td>
</tr>
<tr>
<td>CA</td>
<td>Places where people undertake activities other than working</td>
</tr>
<tr>
<td>WB</td>
<td>Places where people work</td>
</tr>
<tr>
<td>WS</td>
<td>Places where people work with higher risk / storage</td>
</tr>
<tr>
<td>VP</td>
<td>Places for cars, trucks, boats etc.</td>
</tr>
</tbody>
</table>

**Purpose groups** relate to the use of the building and are found in Schedule 2 of the Building (Change the use, Earthquake-prone Building) Regulations 2005. Purpose groups are for establishing the Change of Use of a building.

<table>
<thead>
<tr>
<th>Purpose group</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>CS</td>
<td>Crowd small</td>
</tr>
<tr>
<td>CL</td>
<td>Crowd large</td>
</tr>
<tr>
<td>CO</td>
<td>Crowd open</td>
</tr>
<tr>
<td>CM</td>
<td>Crowd medium</td>
</tr>
<tr>
<td>SC</td>
<td>Sleeping care</td>
</tr>
<tr>
<td>SD</td>
<td>Sleeping detention</td>
</tr>
<tr>
<td>SA</td>
<td>Sleeping accommodation</td>
</tr>
<tr>
<td>SR</td>
<td>Sleeping residential</td>
</tr>
<tr>
<td>SH</td>
<td>Single household</td>
</tr>
<tr>
<td>WL</td>
<td>Working low</td>
</tr>
<tr>
<td>WM</td>
<td>Working medium</td>
</tr>
<tr>
<td>WH</td>
<td>Working high</td>
</tr>
<tr>
<td>WF</td>
<td>Working fast</td>
</tr>
<tr>
<td>IA</td>
<td>Intermittent activity (low)</td>
</tr>
<tr>
<td>ID</td>
<td>Intermittent activity (medium)</td>
</tr>
</tbody>
</table>
Regulatory reviews

The purpose of a regulatory review\(^4\) is to assess whether the design complies with relevant regulations, consent requirements and legislative requirements. The review does not assess the design objectives, process, options, assumptions or method, only the submitted design, testing the outcome against regulatory parameters.

There is no direct relationship between the reviewer and the designer, although the designer may ask questions about inconsistencies in the work. Communication between the designer and the reviewer is important.

An ethical consideration arises for the reviewer when there are concerns with the design. The reviewer must contact the designer to discuss any differences of opinion before the reviewer issues a report. This allows the designer to comment and state a position before the report is submitted.

The reviewer’s role is to identify areas of the design that need to be addressed and to invite the designer to resolve them to the reviewer’s satisfaction. The reviewer does not become involved in resolving the issues.

Who appoints the reviewer

In most instances, the client who commissioned the design will appoint the reviewer, since the client has a stake in getting the work completed satisfactorily. However, where the building is high-risk, the building consent applicant must check and confirm beforehand that the reviewer is acceptable to Council.

For all high-risk buildings, Council must agree/approve the reviewer. The reviewer must be listed on the Auckland Council Approved Author register and have the necessary skills and qualifications to review the work in question.

High-risk applications also require the reviewer to hold an appropriate level of insurance, commiserate with the project. The ACENZ website provides a risk estimator tool for determining the level of insurance required. A copy of the risk estimator worksheet must be attached to the building consent application together with confirmation that an appropriate amount of insurance is held.

If the review is conducted during the consent processing stage, Council will recover the costs from the building consent applicant in the normal manner.

Conflicts of Interest

Reviewers must disclose any potential conflicts of interest; the reviewer must be independent from the designer.

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\(^4\) Reviews maybe undertaken by Council staff; alternatively an independent reviewer maybe engaged by Council or the applicant to carry out the design review. Please refer to the Auckland Council Producer Statement Policy for further information.
Quality Control
In accordance with Auckland Council’s "Producer Statement Policy", Council reserves the right to perform additional reviews of the information to ensure quality and consistency is maintained in the review of designs for compliance with the New Zealand Building Code.

Documentation
At the end of the regulatory review, the information on Council’s file must be complete. It must be adequate such that if the report is revisited at any time in the future, all information necessary to understand the design and why it was accepted, must be available.

For this reason, the following documentation must accompany a review:
- confirmation that all documentation has been prepared in accordance with the guidelines of Practice Note 22 published by IPENZ and the Department of Building and Housing
- a summary sheet listing the documentation reviewed during the assessment including any revisions to drawings (it may be possible to attach the document transmittal sheet used to send the documents to the reviewer)
- the summary sheet must detail all correspondence reviewed / received and a copy of all correspondence must be provided to Council for record-keeping purposes
- the precise extent of the review is to be identified
- any exclusions must be identified
- any applicable conditions of consent are to be noted including any requirements for specialist inspections
- a producer statement design review (PS2) must be provided for the review; the standard ACENZ/IPENZ form is to be used
- verification that an appropriate amount of insurance is held

Fire design review process
The reviewer must ensure the following matters have been addressed:
1. That the quality of the documentation is in accordance with Practice Note 22; note the application may be refused if documentation does not meet these criteria.

2. The reviewer must not perform any design work

3. The reviewer must confirm that all supporting documentation has been:
   - reviewed to meet the requirements of the fire report (i.e. architectural, electrical, mechanical, structural etc); and
   - has been included in the drawings submitted for building consent

4. The reviewer must consider all relevant New Zealand Building Code clauses, C1-6 and F6, F7 and F8 (as applicable to the C clauses) as well as any legislative requirements; i.e. whether sections 67, 112 or 115 of the Act apply.

5. If a waiver or memorandum of encumbrance is requested, the reviewer must discuss and agree this option with Council before completing the review.

6. If the design is based upon any existing legal conditions, then these are to be checked and confirmed before the review is completed.
7. The fire design philosophy must be summarised in the fire report: i.e. acceptable solutions, C/VM2, or specific design. Note the Approved Documents are only one means of demonstrating compliance with the New Zealand Building Code.

8. The method of fire rating specific structural members must be identified as part of the building consent application.

9. Council must agree in principle, in terms of the assessment of what is as near as reasonably practicable before the review is completed.

10. The reviewer is to check and comment on the applicant's response to the New Zealand Fire Service Fire Engineering Unit memorandum and must discuss and ensure that the matters have been resolved with Council before completing the review.

11. During the review process, if additional information is required, such requests must be documented in writing. On the completion of the review, all supplementary documentation must be submitted to Council.

12. The reviewer must summarise and list any safety features or specified systems required for the compliance schedule.

- Fire designs relying on interfacing of safety systems for operation of mechanical smoke control, smoke curtains, delayed locking systems or other complex safety systems or features, require certification by both the design engineer and system installers. A schedule of items requiring construction monitoring and the level of construction monitoring proposed will be required in this circumstance.

  For example:
  i. Special security interlocks;
  ii. Special compliance schedule items

13. If the reviewer considers it appropriate that the fire engineer monitors construction and provides a producer statement construction review, this must be discussed and agreed before the consent is approved, as these become conditions of consent.

14. If the fire design is subject to any limitations or conditions, these must be drawn to Councils attention. If the design engineer does not submit a list of these items, the reviewer must prepare a list; alternatively, they may request it from applicant.

15. The reviewer must complete a design summary; the design summary must not include any exclusions or limitations.