Revision history

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<td>2</td>
<td>Changed name of document from ‘MFPE procedural guidelines’ to ‘MFPE design inclusions’ to better reflect the contents and intent of the document</td>
<td>07/06/2019</td>
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<td>3</td>
<td>As a result of the development of a Building Works Manual (BWM), this guide has been revised to refer to both the BWM and to the MFPE.</td>
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Author

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<th>Version</th>
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<tr>
<td>1</td>
<td>Peter Smith</td>
<td>Assistant Director Estate Engineering Policy</td>
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Acronyms

ABCB  Australian Building Codes Board
AIBS  Australian Institute of Building Surveyors
BA  Building Approval
BPAD  Bushfire Planning and Design
CDR  Concept Design Report
CF  Contribution Factor
CFI  Capital Facilities & Infrastructure
DDR  Detailed Design Report
DEQMS  Defence Estate Quality Management System
DTS  Deemed-to-satisfy
EEGIS  Estate Engineering Governance and Integrity System
E&IG  Estate & Infrastructure Group
FDB  Functional Design Brief
FDR  Final Design Report
FEB  Fire Engineering Brief
FPAA  Fire Protection Association Australia
GEMS  Garrison and Estate Management System
LIA  Living-in Accommodation
MFPE  Manual of Fire Protection Engineering
SDR  Schematic Design Report
SOU  Sole Occupancy Unit
1. Introduction

1.1 Scope

This document provides a summary of the inclusions that need to be submitted through the design development stages of a building project to ensure that compliance with the following Defence policies is achieved:

- Building Works Manual (BWM), edition 1, and

The guidance clarifies the minimum inclusions required by the BWM and the MFPE to enable the development of proposals that meet the reporting requirements through the design stages of a building project.

The BWM requires compliance with the National Construction Code including Building Code of Australia – Volumes One and Two and Plumbing Code of Australia Volume Three (NCC). These requirements must also be met.

The different design stages relate to the planning, development and delivery phases of a project and differ depending on the form of contract that is sought – ie Public / Private Partnership, Managing Contract, Head Contract, or Design and Construct.

This document provides guidance for NCC and fire-related project requirements at milestones known as 5% Functional Design Brief (FDB), 30% Concept Design Report (CDR), a 50% Schematic Design Report (SDR) and a 90% Detailed Design Report (DDR). There may also be variations to the above. For example, a fire engineering brief (FEB) or performance solution report may be submitted for review between rather than at milestone stages.

The guidance provided in this document is not to be used in isolation nor is it a replacement for the requirements of the BWM, NCC, MFPE or other Defence Estate Quality Management System (DEQMS) policies – refer to http://www.defence.gov.au/estatemanagement.

1.2 Aim

The overall aims of this document are to:

- provide consistency in development of design documentation for Defence buildings;
- clarify the fire safety requirements required by the NCC and MFPE;
- provide guidance on compliance requirements for Defence owned or leased buildings;
- provide information required in the different design development stages; and
- summarise key NCC and MFPE requirements.

1.3 Reference documents

Reference is necessary to the following documents:

a. BWM;

b. MFPE;

c. NCC;

Note. The BWM and MFPE have a number of guidelines and templates that can be accessed at the Building Works Section and Fire Safety Engineering pages of the Defence Estate Quality Management System (DEQMS) website.
2. Compliance requirements

2.1 Building Works Manual (BWM)

The BWM is the primary policy document that specifies the building approval and certification requirements for building works in Defence occupied buildings.

The BWM nominates the NCC as the minimum construction standard for Defence buildings.

The provisions of the BWM are mandatory for all Defence projects and apply equally to buildings that are leased or owned by the Department of Defence.

The BWM and hence NCC that is applicable for any project is to be the one that is adopted by Defence at the time of Building Approval (BA) as described in paragraph 2.7 of the BWM.

2.2 Manual of Fire Protection Engineering (MFPE)

The MFPE is the primary policy document to be applied when determining the fire safety requirements for Defence occupied buildings.

The provisions of the MFPE are mandatory for all Defence projects and apply equally to buildings that are leased or owned by the Department of Defence.

The MFPE that is applicable for any project is to be the one that is adopted by the Defence at the time of BA as described in paragraph 2.7 of the BWM.

2.2.1 Contribution Factor (CF)

Defence buildings are categorised in accordance with their contribution to capability. Definitions for CF are provided in the Estate Appraisal Policy Definition Table for Contribution Factor link of the Defence Estate Quality Management System (DEQMS) website.

For new buildings the CF is determined early in the design process. The Delivery Authority engages relevant stakeholders such as the Project Sponsor and regional staff to determine the appropriate category for the building.

In descending order of importance, Defence buildings may be assessed as CF1 – major asset, CF2 – important asset, CF3 – support asset, CF4 – general purpose asset and CF5 – low importance asset.

In addition to the general Defence requirements for CF categorisation, it is a BWM requirement that the assessment in chapter 5, annex A identifies any level or space that has a CF1 or CF2 that is different to the entire buildings categorisation.

Chapter 5 of the BWM requires that the form provided in chapter 5, annex A is completed by the capability manager.

The reason that completion of the form is necessary is so that the required level of fire protection for critical/expensive/long lead time equipment, assets or functions can be determined and assigned.

Buildings or parts identified as having a CF1 or CF2 have additional asset protection requirements. These buildings are critical to Defence operational capability and require specific levels of fire protection as detailed MFPE chapters 10 to 14. These chapters include requirements for specific types of CF1 & CF2 buildings. Chapter 2 has requirements for CF1 & CF2 buildings that are not captured in chapters 10 to 14.

Further information regarding Contribution Factors can be found in the Guidelines for Contribution Factor Forms available at the Building Works Section page of the DEQMS website.
2.3 National Construction Code (NCC)

The NCC is a uniform set of technical provisions for the design and construction of buildings and structures throughout Australia whilst allowing for variations between States and Territories for climatic, geological or geographical conditions. The NCC is given legal effect by building regulatory legislation in each State and Territory and is the minimum construction standard nominated by the BWM. State and Territory appendices of the NCC shall be applied for Defence buildings in the applicable State and Territory. Attention is drawn to part 6.1, Commonwealth of Australia Defence appendix to the NCC where the MFPE and other publications are identified as policy applicable to Defence buildings.

The NCC is updated on a tri-annual basis by the Australian Building Codes Board (ABCB) and adopted by States, Territories and the Commonwealth on 1 May for the following 3-year period. An out of cycle amendment was adopted in July 2020. The next revision is due 1 May 2022.

Therefore the NCC is an iterative document which evolves to incorporate changes to issues governing building design including technique and innovation, remove ambiguity and incorporate greater flexibility as a performance based document.

As stated in paragraph 2.7 of the BWM, the NCC that is applicable for any project involving new construction or substantial alterations is the one that is adopted at the time of a BA being issued.

NCC compliance is required for all new works and leases of new buildings and for alterations and extensions deemed to be a substantial alteration as defined in the definitions section of the BWM. For alterations and extensions not deemed substantial, full compliance with BWM, NCC and MFPE is required for new works and the fire safety in the new and existing portions must not unduly impact upon each other.

Where there is no building works or change in use, the requirements of the NCC are not required to be retrospectively applied. The building must however be maintained in at least its original condition – ie comply with the building regulations at the time of construction. There is also a process for improvements to fire safety through the fire safety survey process in chapter 8 of the MFPE.

2.4 Performance solutions and dispensations

Where a departure from the deemed-to-satisfy (DTS) provisions of the NCC is proposed a performance solution must be developed. Where a non-compliance with Defence policy – eg MFPE – is proposed a dispensation must be sought. The requirements for certification, performance solutions and dispensations are outlined in the BWM.

Templates with sample requests for dispensation or performance solutions can be found at the Building Works Section page of the DEQMS website. Guidelines for certification, performance solutions and dispensations can be found in the same location.

Note. Fire related assessments that address departures to the DTS provisions of the NCC are sometimes referred to as a Fire Engineering Report (FER). A FER that addresses departures to the DTS provisions of the NCC is a performance solution report.

2.5 Defence infrastructure engineering policy

The business process and policy requirements for the Defence estate are located on the DEQMS website. The site provides access to the process, procedures and steps which support the business process for Infrastructure Division (ID). The DEQMS website is available on the Defence Intranet for security cleared personnel in its complete form with no restrictions. It is also available on the internet for external users to obtain a range of information such as contracts, template documents and general non-restricted information. Certain links to restricted information are turned off for external users for security reasons. Compliance with all applicable policies located here are mandatory.

Both the BWM and the MFPE have been issued by First Assistant Secretary Infrastructure with the authority of Deputy Secretary Estate and Infrastructure. The manuals are administrative policy framework documents that apply to all Defence personnel. In addition, failure by a contractor, consultant or outsourced service provider to comply with the mandatory requirements of the policies – where compliance is a term of their contract – may result in a breach of contract.
The policies and procedures nominated on DEQMS are mandatory for E&IG and all those undertaking infrastructure related activities – eg building construction.

3. **Flowcharts for project design teams**

This section includes checklists / flowcharts summarising the following:

- Checklist for various design development stages;
- Flowchart of information required to be included in the different design development stages;
- Example flowcharts of key MFPE and NCC requirements applicable to the following building types:
  - Living-in-accommodation (class 1b, 2 and 3)
  - Office (class 5)
  - Aircraft hangar (class 7b)
  - Storage building (class 7b) / workshop (class 8)
  - Explosive ordnance (class 7b and 8)
  - Training (class 9b)

3.1 **Minimum inclusions within design documentation – checklist for the Delivery Authority**

The design development stages may include a:

- 5% Functional Design Brief (FDB);
- Concept Design Report (CDR);
- 30% Design Report (commonly merged with CDR to form a 30%CDR);
- 50% Schematic Design Report (SDR);
- 90% Detailed Design Report (DDR); and
- 100% Final Design Report (FDR).

Reviews are also required to be provided for performance solutions or dispensations made under chapter 8 of the BWM. This includes:

- Fire Engineering Briefs (FEBs) or stakeholder briefs for non-fire-safety related performance solutions; and
- Performance solution reports – Fire engineered solutions demonstrating compliance with the performance requirements of the NCC.
- Dispensations – Solutions that seek a release from the MFPE or other Defence specific policy requirements.

Other defence reports may be required to be reviewed from time to time. These include but may not be limited to:

- Strategic business case;
- Site selection brief;
- Master Plan Feasibility Report; and
- Upgrade fire protection works

Different delivery processes such as Private Public Partnerships may have different delivery milestones and terminology for those milestones.
The type of design documentation generally includes the 5% to 90% design stages, but there are variations to the above. For example, a FEB or performance solution report should be submitted for review outside milestone stages – ie FEB between 30% and 50% design stage and performance solution or dispensation before 90% design so that the outcomes of those reviews can be documented at the 50% and 90% stages.

Below are checklists for the Delivery Authority for minimum inclusions at 5%, 30%, 50% and 90% design documentation. The project should not proceed to the next stage until all of the required information has been provided.

### 3.1.1 5% FDB

The Functional Design Brief (FDB) is generally prepared at the 5% design milestone. It is intended as a design back-brief and a chance for the designers to confirm their understanding of the design requirements and to communicate their design intent in terms of a design plan. The FDB should contain, but is not limited to the following:

- design parameters;
- siting options;
- identification of relevant standards;
- applicability of relevant standards;
- information documents referenced;
- stakeholder lists;
- understanding of existing facilities;
- understanding of other projects at the site;
- understanding of base operations;
- appreciation of impact on base operations;
- clear articulation of the current situation and the requirements; and
- list of assumptions.

The project should not proceed to the next stage until all of the required information has been provided. The FDB document shall include, but not be limited to:

- The applicable version of the BWM, NCC and MFPE is to be identified. Note that final documentation must meet the applicable requirements of the BWM, NCC and MFPE and referenced standards at the time of BA. This will require documents to be updated until BA is obtained – ie if any of the documents are updated this must be reflected in future reports.
- Identification of likely CF(s). Sign off is not required at this stage.
- Identification of the applicable chapters of the MFPE – eg if a hangar chapter 13 applies.
- A general building description providing context for the BWM, NCC and MFPE assessments for each building. This shall include:
  - Use and NCC classification – eg office class 5
  - Approximate floor area
  - Rise in storeys
  - Type of fire-rated construction – ie type A, B, C, large isolated building or not applicable
- Identification of options being considered to achieve NCC compliance.
- Identification of proposed – if any – performance solutions and / or dispensations.
- Identification of any contractual fire safety requirements applicable that are in addition to MFPE and NCC.
- Final FDB must not have any draft mark.
Final FDB must be signed by author, verifier and person approving report.

If a building surveyor has been engaged accreditation details must be provided. The building surveyor shall be accredited or licenced in the State or Territory where the work is being performed. A building surveyor can only perform building assessments to the extent allowable by their accreditation level and experience.

If review comments were provided on FDB, a comment log must be provided and sent to reviewer.

3.1.2 30% CDR

5% FDB requirements plus the following:

- CF signed off (signatures must be provided) using form in chapter 5, annex A of the BWM, or evidence of consultation with the capability manager to determine the likely CF – meeting notes or other written evidence must be provided.

- Fire safety measures identified. This shall include a list of relevant fire safety measures with the applicable standard of performance – ie specific NCC provisions and relevant standards plus MFPE requirements. Note. A fire safety measures template can be found at the Building Works Section page of the DEQMS website.

- Reference documents identified – Defence policies, guidance documents and other reference material relied upon.

- A report containing an NCC / MFPE assessment including:
  - Confirmation of the use, floor area and rise in storeys, and type of fire rated construction.
  - Identification of applicable NCC provisions and MFPE requirements (considering CF).
  - Identification of all proposed performance solutions and dispensations forming part of the design.

- Where a Defence on-base fire service is provided, consultation shall be undertaken with the fire service to ensure that their operational needs are also met and agreed in writing. Should conflicting requirements arise between the State / Territory and the on-base fire services, then this matter shall be referred to the Fire Safety Engineering Section for resolution and guidance.

- Consultation with the State / Territory fire services undertaken to ensure that the operational requirements for the fire service will be met. This consultation may either follow the formal referral process, or can follow a less formal process where operational requirements of the fire service have been met and agreed in writing.

- Final CDR must not have any draft mark.

- Final CDR must be signed by author, verifier and person approving report.

- If the building surveyor has been engaged, accreditation details must be provided. The building surveyor shall be accredited or licenced in the State or Territory where the work is being performed. A building surveyor can only perform building assessments to the extent allowable by their accreditation level and experience.

- If review comments are provided on the FDB, a comments log must be provided and issued with the CDR documents.

Note. FEB or similar to be completed in accordance with chapter 8 of the BWM. Submission to be prior to 50% SDR for any proposed performance solutions or dispensations.
3.1.3 50% SDR

30% CDR requirements plus the following:

- CF signed off (signature must be provided) using form in chapter 5, annex A of the BWM.
- Fire safety measures confirmed and the list of relevant fire safety measures as identified at 30% CDR updated.
- Reference documents confirmed – Defence policies, guidance documents and other reference material relied upon.
- An updated report containing an NCC / MFPE assessment. The report shall include:
  - Identification of any changes to the 30% CDR requirements.
  - Confirmation that the design is capable of complying with the performance requirements of the NCC.
- Evidence that stakeholder consultation has been undertaken for all performance solutions and/or dispensations. Note. The sample request templates – found at the Building Works Section page of the DEQMS website – must be used when performance solutions and dispensation requests are submitted. Further guidance is provided within Guidelines for certification, performance solutions and dispensations found at the same website.
- The submission of fire engineering briefs, performance solutions and dispensations does not need to align with project milestone stages.
- Evidence that stakeholder consultation has been undertaken for all performance solutions and/or dispensations. For fire-related issues a fire engineering brief (FEB) must have been completed and issued prior to the 50% SDR to allow sufficient time for review and comment and for any changes to the SDR to be completed prior to that submission. A similar brief process is required for non-fire-related issues or dispensations.
- A performance solution or supporting information for a dispensation must have been prepared by a competent person as defined in the BWM. This information must be independently assessed by the building surveyor to confirm the proposed performance solution or dispensation meets the relevant requirements prior to the application being lodged with DEEP.
- Validation of design – designers shall certify compliance with the fire safety measures applicable to their discipline. The statement must identify the applicable standard of performance – i.e. Specific NCC provisions and relevant standards and relevant year versions as well as MFPE requirements. The statement must be signed and dated. Note. Reference to a Defence brief is not adequate.
- Final SDR must not have any draft mark.
- Final SDR must be signed by author, verifier and person approving report.
- Confirmation of appointment of the building surveyor and accreditation details to be provided. The building surveyor shall be accredited or licenced in the State or Territory where the work is being performed. A building surveyor can only perform building assessments to the extent allowable by their accreditation level and experience.
- If review comments are provided on the 30% CDR, a comments log must be provided and issued with the SDR documents.

3.1.4 90% DDR

50% SDR requirements plus the following:

- A final report containing an NCC / MFPE assessment. The report shall include:
  - Identification of any changes to the 50% SDR requirements.
  - Confirmation that the design complies with the performance requirements of the NCC.
- The submission of performance solutions and dispensations must be in accordance with chapter 8 of the BWM. The submission does not need to align with project milestone stages.
Any performance solution / dispensation must have been completed and issued prior to the 90%DDR to allow sufficient time for review and comment and for any changes to the DDR to be completed prior to that submission.

- All performance solutions have been submitted using the template forms found at the Building Works Section page of the DEQMS website and have been supported by DEEP.
- All dispensations submitted have been submitted using the template forms found at the Building Works Section page of the DEQMS website and have been approved by ASEE.
- Final DDR must not have any draft mark.
- Final DDR must be signed by author, verifier and person approving report.
- If review comments are provided on the SDR, a comments log must be provided and issued with the DDR documents.
3.2 Flowchart - Minimum inclusions within design documentation

<table>
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<tr>
<th>5% - Functional Design Brief (FDB)</th>
<th>30% - Concept Design Report (CDR)</th>
<th>50% - Schematic Design Report (SDR)</th>
<th>90% - Detailed Design Report (DDR)</th>
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</table>

**Minimum Requirements**

- The current applied version of the BWM, NCC and MFPE shall be identified – refer to note 4
- Identification of likely building Contribution Factor (CF)
- Identification of the applicable chapters of the MFPE
- A general building description providing context for the BWM, NCC and MFPE assessments for each building. This shall include:
  - Use and NCC classification
  - Approximate floor area
  - Rise in storeys
  - Type of fire-rated construction (type A, B, C, large isolated building if applicable)
- Identification of the options being considered to achieve NCC compliance
- Identification of proposed – if any – performance solutions and dispensations
- Identification of any contractual fire safety requirements applicable that are in addition to BWM, NCC and MFPE
- Final FDB must not have any draft mark.
- Final FDB must be signed by author, verifier and person approving report.
- Building surveyors details if engaged at this stage

**Minimum Requirements**

- 5% FDB requirements plus the following:
  - CF signed off, or
  - Evidence of consultation with capability manager to determine the likely CF
  - Fire safety measures identified. This shall include a list of relevant fire safety measures with the applicable standard of performance – ie. specific NCC provisions and relevant standards plus MFPE requirements – refer to notes 1, 2 and 3
  - Reference documents identified – Defence policies, guidance documents and other reference material relied upon
  - A report containing an NCC / MFPE assessment including:
    - Confirmation of the use, floor area and rise in storeys, and type of fire rated construction
    - Identification of specific MFPE requirements (considering CF) and applicable NCC provisions
    - Identification of all proposed performance solutions and dispensations forming part of the design – refer to note 5
  - Evidence of consultation with base and other responding fire services to ensure operational requirements are met with respect to emergency vehicular access and hydrant system requirements as per paragraph 3.2.1 of the BWM and paragraph 2.10 of the MFPE
  - Final CDR must not have any draft mark.
  - Final CDR must be signed by author, verifier and person approving report.
  - Building surveyors details if engaged at this stage.
  - A comments log addressing any comments made on previous submissions

**Minimum Requirements**

- 30% CDR requirements plus the following:
  - CF signed off
  - Fire safety measures confirmed
  - Reference documents confirmed – Defence policies, guidance documents and other reference material relied upon
  - An updated report containing an NCC / MFPE assessment. The report shall include identification of any changes to the 30% CDR requirements and confirmation that the design is capable of complying with the performance requirements of the NCC
  - Validation of design – designers shall certify compliance with the fire safety measures applicable to their discipline. The statement must identify the applicable standard of performance – ie. specific NCC provisions and relevant standards plus MFPE requirements – refer to notes 1, 2 and 3
  - Evidence that stakeholder consultation has been undertaken for all performance solutions and / or dispensations
  - For fire-related issues a Fire Engineering Brief (FEB) must have been undertaken and accepted prior to the 50% SDR to allow sufficient time for review and comment and for any changes to the SDR to be completed prior to that submission. A similar brief process is required for non-fire-related issues or dispensations – refer to note 5
  - Final SDR must not have any draft mark.
  - Final SDR must be signed by author, verifier and person approving report.
  - All dispensations approved by ASEE
  - A comments log addressing any comments made on previous submissions

**Minimum Requirements**

- 50% SDR requirements plus the following:
  - A final report containing an NCC / MFPE assessment. The report shall include identification of any changes to the 50% SDR requirements and confirmation that the design complies with the performance requirements of the NCC
  - The submission of performance solutions and dispensations must be in accordance with chapter 8 of the BWM. The submission does not need to align with project milestone stages. Any performance solution / dispensation must have been completed and issued prior to the 50% SDR to allow sufficient time for review and comment and for any changes to the DDR to be completed prior to that submission.
  - Final DDR must not have any draft mark.
  - Final DDR must be signed by author, verifier and person approving report.
  - All performance solutions are supported by DEEP
  - All dispensations approved by ASEE
  - A comments log addressing any comments made on previous submissions

NOTES:

1. The NCC or MFPE requirement for compliance with a NCC referenced code or standard is to be nominated – eg for fire detection – paragraph 2.11 of the MFPE, and / or table E2.2a and clause 4 of specification E2.2a of the NCC and AS 1670.1-2018.
2. Design standards must include the numerical identification including the part and year – eg fire detection and alarm system AS 1670.1-2018.
3. The fire safety measures / components for a building or part can only be validated after the CF assessment has been completed and signed off.
4. Documentation must meet the applicable requirements of the NCC and related codes and standards as well as the BWM and MFPE at the time of Building Approval (BA). This will require documents to be updated until BA is obtained.
5. The process for performance solutions and dispensations is detailed in chapter 8 of the BWM. Further guidance is provided within the ‘Certification, performance solution and dispensation guidelines’ found at the Building Works Section page of DEQMS
### 3.3 Living-in Accommodation (LIA)

A residential building as defined in the NCC, other than a class 1a building. This includes 1b, 2 and 3 occupancy classifications. LIAs can be permanent or transient. Transient accommodation is designated at a site for short-term, temporary or ad-hoc accommodation.

#### NCC Volume One – class 2 & 3

**Key reporting requirements**

- Type of construction required
- Fire separation to sole occupancy units (SOUs) – class 2 and 3
- Fire separation from fire source features
- Egress and travel distances from SOUs and common areas
- Construction of exits
- Smoke detection and occupant warning system
- Fire safety equipment and systems

#### BWM

- Chapter 1
  - BWM applies to leased and Defence owned buildings

- Chapter 5
  - Requirement in BWM to determine the CF of the Defence asset to assist in determining the level of fire protection required to comply with Defence policies including the MFPE

#### MFPE

- Chapter 2
  - Active and passive fire safety measures must be installed to the requirements of the NCC
  - Consultation with base and other responding fire services to ensure operational requirements are met

- Chapter 4
  - Confirm requirements for egress are met where security is necessary

- Chapter 9
  - Portable fire extinguishers and fire blankets to be provided to comply with MFPE / NCC and AS 2444
  - Class 1b buildings are to be provided with portable extinguishers and fire blankets as if they were class 2-9 buildings as per the requirements of table E1.6 of the NCC

- Chapter 12
  - CF or NCC will dictate the level of protection required
  - Design of Defence buildings leased or owned by Defence in bushfire prone areas to meet construction requirements of the NCC and MFPE
  - This chapter includes variations from the risk assessment approach contained in AS 3959

#### NCC Volume two – class 1b Key Issues

- Floor area and population requirements
- Smoke alarms with emergency lights (Note: There are higher requirements in MFPE)
### 3.4 Office buildings

A building or space within a building used principally for administrative or clerical work. Examples include headquarters buildings and administration offices or consulting health care buildings where patients are ambulatory.

<table>
<thead>
<tr>
<th>NCC</th>
<th>BWM</th>
<th>MFPE</th>
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<tbody>
<tr>
<td>NCC class 5</td>
<td>Key reporting requirements</td>
<td></td>
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<tr>
<td>• Type of construction required</td>
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<tr>
<td>• Fire separation to fire source features</td>
<td></td>
<td></td>
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<tr>
<td>• Floor area and volume limitations to fire compartments</td>
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<tr>
<td>• Egress and travel distances to the road or open space</td>
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<tr>
<td>• Construction of exits</td>
<td></td>
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<tr>
<td>• Fire safety equipment and systems subject to CF and NCC compliance.</td>
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<tr>
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<td>Chapter 1</td>
<td>• BWM applies to leased and Defence owned buildings</td>
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<tr>
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<td>• Determine the CF of the Defence asset to assist in determining the level of fire protection required to comply with Defence policies including the MFPE</td>
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<td></td>
<td>• CF1 or CF2 have additional asset protection requirements</td>
<td></td>
</tr>
<tr>
<td>Chapter 4</td>
<td>• Confirm requirements for egress are met where security is necessary</td>
<td></td>
</tr>
<tr>
<td>Chapter 5</td>
<td>• Emergency warning system to include public address capability where detection or suppression provided</td>
<td></td>
</tr>
<tr>
<td>Chapter 9</td>
<td>• Portable fire extinguishers to be provided to comply with MFPE / NCC and AS 2444</td>
<td></td>
</tr>
<tr>
<td>Chapter 10</td>
<td>• CF1 or CF2 have additional asset protection requirements for.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Non-combustible construction</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Fire and smoke separation</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Fire suppression</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Fire detection</td>
<td></td>
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<tr>
<td></td>
<td>• Smoke clearance</td>
<td></td>
</tr>
<tr>
<td>Chapter 12</td>
<td>• CF or NCC will dictate the level of protection required</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Design of Defence buildings leased or owned by Defence in bushfire prone areas to meet construction requirements of the NCC and MFPE</td>
<td></td>
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<tr>
<td></td>
<td>• This chapter includes variations from the risk assessment approach contained in AS 3959</td>
<td></td>
</tr>
</tbody>
</table>
3.5 Aircraft Hangar

Hangar includes hangar aircraft area and hangar annex. The hangar aircraft area is any part of a hangar where aircraft may be parked and any internal adjacent area not divided from that area by fire walls or open space in which fuel vapours can dissipate. Hangar annex is a building space that is part of a hangar attached to a hangar aircraft area containing office accommodation, servicing or repair facilities building services and plant and accommodation associated with them and the aircraft area.

Note. The requirements do not apply to a hangar open shelter as defined in the BWM.

<table>
<thead>
<tr>
<th>NCC</th>
<th>BWM</th>
<th>MFPE</th>
</tr>
</thead>
<tbody>
<tr>
<td>NCC class 7b or 8</td>
<td>Key reporting requirements</td>
<td></td>
</tr>
<tr>
<td>- Type of construction</td>
<td>Chapter 1</td>
<td>Chapter 2</td>
</tr>
<tr>
<td>- Fire separation to fire source features</td>
<td></td>
<td>- Active and passive fire safety measures must be installed to the requirements of the NCC</td>
</tr>
<tr>
<td>- Floor area and volume limitations to fire compartments</td>
<td>Chapter 5</td>
<td>Chapter 6</td>
</tr>
<tr>
<td>- Egress and travel distances to the road or open space</td>
<td></td>
<td>- Complete the hangar assessment form to assist in determining the level of fire protection required to comply with Defence policies including the MFPE</td>
</tr>
<tr>
<td>- Construction of exits</td>
<td></td>
<td></td>
</tr>
<tr>
<td>- Fire safety equipment and systems (multiple) subject to CF and NCC compliance</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Chapter 4</td>
<td>Chapter 9</td>
</tr>
<tr>
<td></td>
<td>Confirm requirements for egress are met where security is necessary</td>
<td>Portable fire extinguishers to be provided to comply with MFPE / NCC and AS 2444</td>
</tr>
<tr>
<td></td>
<td>Chapter 5</td>
<td>Chapter 10</td>
</tr>
<tr>
<td></td>
<td>Emergency warning system to include public address capability where detection or suppression provided</td>
<td>Chapter 10 applies to a hangar annex or part if CF1 or CF2.</td>
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<tr>
<td></td>
<td></td>
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</tr>
<tr>
<td></td>
<td>Chapter 11</td>
<td>Chapter 12</td>
</tr>
<tr>
<td></td>
<td>Chapter 11 applies to a hangar annex is deemed storage or workshop</td>
<td>CF or NCC will dictate the level of protection required</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Design of Defence buildings leased or owned by Defence in bushfire prone areas to meet construction requirements of the MFPE / NCC</td>
</tr>
<tr>
<td></td>
<td></td>
<td>This chapter includes variations from the risk assessment approach contained in AS 3959</td>
</tr>
<tr>
<td></td>
<td>Chapter 13</td>
<td></td>
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<tr>
<td></td>
<td></td>
<td>Provides requirements for new hangars</td>
</tr>
<tr>
<td></td>
<td></td>
<td>The level of protection required is based on the CF and is to be used to assign additional fire protection requirements</td>
</tr>
</tbody>
</table>
3.6 Storage Building (class 7b) / Workshop (class 8)

A building or space within a building used for the storage of goods or a building or space within a building that serves as a work space for a particular manual or mechanical activity. Refer to separate spreadsheet in section 3.7 for explosive ordnance buildings. Examples include clothing stores and warehouse.

### Key reporting requirements

<table>
<thead>
<tr>
<th>NCC</th>
<th>BWM</th>
<th>MFPE</th>
</tr>
</thead>
<tbody>
<tr>
<td>NCC class 7b and 8</td>
<td>Key reporting requirements</td>
<td></td>
</tr>
<tr>
<td>Chapter 1</td>
<td>BWM applies to leased and Defence owned buildings</td>
<td></td>
</tr>
<tr>
<td>Chapter 2</td>
<td>Active and passive fire safety measures must be installed to the requirements of the NCC</td>
<td></td>
</tr>
<tr>
<td>Chapter 3</td>
<td>Consultation with base and other responding fire services to ensure operational requirements are met</td>
<td></td>
</tr>
<tr>
<td>Chapter 4</td>
<td>CF1 or CF2 have additional asset protection requirements</td>
<td></td>
</tr>
<tr>
<td>Chapter 5</td>
<td>Determined the CF of the Defence asset to assist in determining the level of fire protection required to comply with Defence policies including the MFPE</td>
<td></td>
</tr>
<tr>
<td>Chapter 6</td>
<td>Confirm requirements for egress are met where security is necessary</td>
<td></td>
</tr>
<tr>
<td>Chapter 7</td>
<td>Emergency warning system to include public address capability where detection or suppression provided</td>
<td></td>
</tr>
<tr>
<td>Chapter 8</td>
<td>Portable fire extinguishers to be provided to comply with MFPE / NCC and AS 2444</td>
<td></td>
</tr>
<tr>
<td>Chapter 9</td>
<td>Applies to CF1 &amp; CF2 storage and workshops NCC class 7b and 8</td>
<td></td>
</tr>
<tr>
<td>Chapter 10</td>
<td>Assess floor area, volume, rise in storeys – NCC</td>
<td></td>
</tr>
<tr>
<td>Chapter 11</td>
<td>Active fire safety measures to NCC</td>
<td></td>
</tr>
<tr>
<td>Chapter 12</td>
<td>Passive fire protection measures are to be assessed for the purpose of restricting the impact of fire to significant assets</td>
<td></td>
</tr>
<tr>
<td>Chapter 13</td>
<td>Sprinklers may be required</td>
<td></td>
</tr>
<tr>
<td>Chapter 14</td>
<td>Fire detection may be required</td>
<td></td>
</tr>
<tr>
<td>Chapter 15</td>
<td>Smoke exhaust for buildings with compartment exceeding 2000m³ or 12,000m³</td>
<td></td>
</tr>
</tbody>
</table>

**Chapter 1**
- BWM applies to leased and Defence owned buildings

**Chapter 5**
- Determine the CF of the Defence asset to assist in determining the level of fire protection required to comply with Defence policies including the MFPE

**Chapter 7**
- Active and passive fire safety measures must be installed to the requirements of the NCC

**Chapter 9**
- Consultation with base and other responding fire services to ensure operational requirements are met

**Chapter 12**
- CF or NCC will dictate the level of protection required

**Chapter 15**
- Design of Defence building leased or owned by Defence in bushfire prone areas to meet construction requirements of the MFPE / NCC

**Chapter 17**
- This chapter includes variations from the risk assessment approach contained in AS 3659
### 3.7 Explosive Ordnance

A building or part of a building containing explosive ordnance inclusive of EO storage and workshops. Examples include EO Workshop and EO Warehouse and ammunition magazines.

<table>
<thead>
<tr>
<th>NCC</th>
<th>BWM</th>
<th>MFPE</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>NCC Volume One – class 7b / 8 / 10</strong>&lt;br&gt;Key reporting requirements</td>
<td><strong>Chapter 1</strong>&lt;br&gt;• BWM applies to leased and Defence owned buildings</td>
<td><strong>Chapter 9</strong>&lt;br&gt;• Portable fire extinguishers to be provided to comply with MFPE / NCC and AS 2444</td>
</tr>
<tr>
<td></td>
<td><strong>Chapter 2</strong>&lt;br&gt;• Active and passive fire safety measures must be installed to the requirements of the NCC</td>
<td><strong>Chapter 12</strong>&lt;br&gt;• CF or NCC will dictate the level of protection required</td>
</tr>
<tr>
<td></td>
<td><strong>Chapter 5</strong>&lt;br&gt;• Determine the CF of the Defence asset to assist in determining the level of fire protection required to comply with Defence policies including the MFPE</td>
<td><strong>Chapter 15</strong>&lt;br&gt;• Comply with eDEOP 101&lt;br&gt;• Non-combustible materials must be used&lt;br&gt;• Internal fire walls of concrete or masonry, subject to compliance with the wider EO requirements&lt;br&gt;• EO and non-EO areas to be fire and smoke separated from each other&lt;br&gt;• Alarm system to eDEOP 101 required&lt;br&gt;• Fire detection and alarm systems shall be considered as part of a risk strategy&lt;br&gt;• Any CCTV control room to be in separate building or fire separated&lt;br&gt;• EO considered special hazards in relation to fire hydrants / hose reels and portable fire extinguishers</td>
</tr>
</tbody>
</table>
### 3.8 Training Buildings

A building or space within a building used principally for training or assembly of persons. Examples include main briefing / syndicate training, simulator training building and trade training workshops.

<table>
<thead>
<tr>
<th>NCC class 9b Key reporting requirements</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Type of construction</td>
</tr>
<tr>
<td>• Fire separation to fire source features</td>
</tr>
<tr>
<td>• Floor area and volume limitations to fire compartments</td>
</tr>
<tr>
<td>• Specific requirements in table E2.2b if an assembly building</td>
</tr>
<tr>
<td>• Egress and travel distances to the road or open space</td>
</tr>
<tr>
<td>• Safe evacuation in the event of a fire or emergency</td>
</tr>
<tr>
<td>• Fire safety equipment and systems subject to CF assessments and NCC compliance.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Chapter 1</th>
<th>Chapter 2</th>
<th>Chapter 4</th>
<th>Chapter 5</th>
<th>Chapter 9</th>
<th>Chapter 12</th>
</tr>
</thead>
<tbody>
<tr>
<td>BWM applies to leased and Defence owned buildings</td>
<td>Active and passive fire safety measures must be installed to the requirements of the NCC</td>
<td>Confirm requirements for egress are met where security is necessary</td>
<td>Emergency warning system to include public address capability where detection or suppression provided</td>
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<td>Consultation with base and other responding fire services to ensure operational requirements are met</td>
<td></td>
<td></td>
<td></td>
<td>Design of Defence buildings leased or owned by Defence in bushfire prone areas to meet construction requirements of the MFPE / NCC</td>
</tr>
<tr>
<td>Where specialist training facilities are required to be designed to provide training realism, a special structure classification may be applied</td>
<td>CF1 or CF2 have additional asset protection requirements</td>
<td></td>
<td></td>
<td></td>
<td>This chapter includes variations from the risk assessment approach contained in AS 3959</td>
</tr>
</tbody>
</table>