



Australian Government

Department of Defence
Defence Support and Reform Group

Guidelines for aircraft hangar assessment forms

Infrastructure Division
Environment and Engineering Branch



Version 3
August 2020

Revision history

Version	Description	Date
1	First issue of guidelines related to chapter 13 of the Manual of Fire Protection Engineering (MFPE) – Edition 2	08/05/2018
2	Change title to 'Guidelines for aircraft hangar assessment forms' and update guide to reflect MFPE Edition 3 – Amendment 1	05/06/2018
3	As a result of the development of a Building Works Manual (BWM), this guide has been revised to refer to the BWM instead of the MFPE.	17/08/2020

Author

Version	Name	Position
1	Peter Smith	Assistant Director Estate Engineering Policy
2	Peter Smith	Assistant Director Estate Engineering Policy
3	Peter Smith	Assistant Director Estate Engineering Policy

Contents

Revision history	2
Contents	3
1. Introduction	4
2. Guidance for completion of chapter 6, annex A form	4
3. Building Contribution Factor	4
4. Hangar assessment form	4
a. Specify maximum number of aircraft to be housed in the Hangar	4
b. Will the aircraft be fuelled?	4
c. Is the building a Deployable Hangar?	5
Appendix A. Example hangar assessment form	6

1. Introduction

The passive and active fire safety measures required for aircraft areas in hangars and deployable hangars are details in chapter 13 of the Manual of Fire Protection Engineering (MFPE).

Note. This chapter of the MFPE does not apply to parts of the building that do not contain aircraft or to a hangar open shelter as defined in the Building Works Manual (BWM). These parts must comply with the general requirements detailed in the National Construction Code Volume One – Building Code of Australia (NCC) and the specific requirements specified in other chapters of the MFPE as applicable.

As part of any building approval for an aircraft hangar, the assessment form in annex 6A of the BWM must be completed. The form is then used to determine the specific fire safety requirements of chapter 13 of the MFPE.

2. Guidance for completion of chapter 6, annex A form

The following sub-sections provide guidance for completing the hangar assessment form in annex 6A of the BWM.

A template annex 6A form is provided at the [Building Works Section](#) page of the Defence Estate Quality Management System (DEQMS) website.

3. Building Contribution Factor

Chapter 5 of the BWM outlines the process for determining the Contribution Factor (CF) of buildings.

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.

Chapter 13 of the MFPE uses the assigned CF for the building or part as the basis for determining the fire protection level for hangars. The protection requirements are increased in line with the contribution to capability, expressed as the CF.

The CF is the starting point for establishing the relevant fire safety requirements. CF1 has a very high and CF2 has a high contribution to operational capability. Accordingly, these hangars have a higher level of fire protection requirements.

4. Hangar assessment form

The information needed in addition to the CF to determine the fire protection measures is:

a. Specify maximum number of aircraft to be housed in the Hangar

This needs to be determined because there are specific fire safety requirements for the protection of multiple aircraft in the same aircraft area – refer to MFPE chapter 13. The intent of these requirements is to protect other aircraft if a fire occurs.

b. Will the aircraft be fuelled?

Fuelled aircraft in a hangar increases the potential for fire as well as the intensity of fire if ignition occurs. This needs to be determined so the appropriate fire safety measures for the protection of other aircraft can be determined.

c. Is the building a Deployable Hangar?

There are different fire protection requirements within for a hangar or a deployable hangar. This needs to be determined so the specific requirements for fire protection can be defined.

The determination of the CF in combination with the information recorded on the hangar assessment form provides the basis for determining whether any specific fire safety measures are required for individual aircraft areas.

There are a number of specific and a number of optional requirements that can be chosen depending on whether there are multiple aircraft in same fire compartment and whether or not the aircraft will remain fuelled.

For example, in a CF1 or CF2 hangar containing multiple fuelled aircraft, the MFPE provides options for either fire compartmentation between each aircraft or smoke exhaust where aircraft are located in the same aircraft area.

CF1, CF2 hangars / aircraft areas must be further protected in accordance with the requirements of chapter 13 of the MFPE. The intent is to minimise fire spread between aircraft and from ancillary areas if a fire event occurs.

Hangars and aircraft areas determined as CF3, CF4 and CF5 have a lower level contribution towards operational capability but still have a number of specific requirements that are in addition to NCC requirements – eg the requirement for fire compartmentation and floor drainage. This is intentional and is there to facilitate flexibility for future use should the classification of the aircraft change.

An example of a completed hangar assessment form is provided Appendix A.

Appendix A. Example hangar assessment form

OFFICIAL

Building Works Manual

ANNEX 6A

HANGAR ASSESSMENT FORM

E&IG Region:	[Defence estate region or sub-region]
Establishment:	[Base/establishment]
Building Name:	[add building name]
GEMS ID:	XXXX/XXXX

Specify maximum number of aircraft to be housed in the hangar	6 aircraft
Will the aircraft be fuelled?	No
Is the building a <i>deployable hangar</i>	No

Capability Manager comments
Aircraft area for maintenance of super hornets

Capability Manager

Name:	
Position/title:	
Signature:	
Date:	

Note:

- The Building Contribution Factor Form at [Annex 5A](#) shall be completed.

Edition 1

OFFICIAL