RAAF BASE WILLIAMTOWN

BASE AIRCRAFT NOISE MANAGEMENT PLAN

Approved by:

Chris.Hake1 Digitally signed by Chris.Hake1 Date: 2019.12.06 11:40:54 +11'00'

C Hake
Group Captain
Temporary Senior Australian Defence Force Officer
RAAF Base Williamtown

AMENDMENT CERTIFICATE

AL	Date	Change	Signature
1	03 Dec 20	Updated privacy classification from unclassified to official	peter.cluff 2020.12.04 07:45:26 +11'00'
2	03 Dec 20	Removed Challenger 604, included Dassault Falcon 7X	peter.cluff 2020.12.04 07:45:46 +11'00'

TABLE OF CONTENTS

RAAF BASE WILLIAMTOWN AIRCRAFT NOISE MANAGEMENT PLAN

References:

A. Environment Impact Statement for the Flying Operations of the F-35A - 2014
B. Approval Decision for the Flying Operations of the F-35A - 2015
C. Hawk Lead-In Fighter Environment Impact Statement - 2002
D. Consent Conditions for the Hawk Lead-In Fighter - 2003

Introduction

1. Aircraft noise is an unavoidable consequence of Air Force operations and training. The impact of aircraft noise affects communities in different ways. Air Force has an obligation to reduce the effects of aircraft noise on local communities to the maximum extent possible, whilst achieving operational and training outcomes for Government. Consequently, aircraft noise is managed locally by personnel who know and understand community concerns.

2. RAAF Base Williamtown Base Aircraft Noise Management Plan (BANMP) informs and aims to improve public understanding of aircraft noise management strategies in the vicinity of RAAF Base Williamtown (WLM).

3. Located 30 kilometres north of Newcastle, RAAF Base WLM is Australia's premier fighter base. It is the home base for the tactical fighter element of Air Combat Group (ACG), and the Airborne Early Warning and Control (AEW&C) element of Surveillance and Response Group (SRG).

4. RAAF Base WLM is responsible for the Salt Ash Air Weapons Range (SAAWR) which is located approximately 6km to the north-east of the base. SAAWR is used for air-to-surface gunnery and bombing training.

5. The primary users of SAAWR are ACG flying squadrons which include F/A-18A/B Classic Hornets, the Hawk 127 Lead-In Fighter, PC-21 and F-35A.

Background and scope

6. The BANMP has been raised in compliance with the Air Force Aircraft Noise Management Strategy. The BANMP applies to all flying and ground operations involving Air Force aircraft, civil-registered aircraft leased by the Air Force, Defence contracted aircraft operated by external service providers and foreign military aircraft operating from RAAF Base WLM.

7. Newcastle Airport Propriety Limited (NAPL) is located on the southern area of RAAF Base WLM and all civilian Regular Public Transport (RPT) and approved operator aircraft are required to comply with the RAAF Base WLM BANMP. All noise related RPT complaints are managed by NAPL.

Description of standard aircraft operations

8. RAAF aircraft permanently based at RAAF Base WLM include:
a. F/A-18A/B Classic Hornet dual jet engine, single and twin seat fighter aircraft
b. F-35A single jet engine fighter aircraft

c. BAE Hawk 127 single jet engine, twin seat lead in fighter training aircraft
d. Boeing E-7A twin turbofan engine, AEW&C aircraft[1]
e. Pilatus PC-21 single turboprop engine, twin seat training aircraft
f. Learjet 35/36 two pilot, 10 passenger, twin turbofan engine training support aircraft
g. Sikorsky S-70 and Augusta Westland AW139 turbo shaft helicopters operated by Canadian Helicopter Corporation for Search And Rescue (SAR).

9. Normal flying operations for military aircraft are from 8:00am to 10:00pm Australian Eastern Standard Time (AEST) and up to 11:00pm during Australian Eastern Daylight Time (AEDT). Night flying can be conducted at SAAWR until 9:00pm AEST and 10.30pm AEDT. Night flying is restricted to the minimum required to achieve training targets. Flying before and after these hours can occur, including on weekends, without notice.

10. RAAF Base WLM maintains an airfield curfew from 10:00pm to 6:00am daily for civilian RPT aircraft movements. RAAF Base WLM is available 24 hours each day for all emergency services aircraft (Careflight, Westpac Rescue, NSW Air Ambulance, Royal Flying Doctors, NSW Rural Fire Service, NSW Police, etc) and these aircraft are authorised to land during curfew hours.

11. The average number of military aircraft movements is 285 per week.

12. The average number of civilian RPT flights is 418 movements per week. Late arrival dispensations are provided on occurrence.

13. RAAF Base Williamtown utilises six primary training areas indicated at Figure 1. To reduce localised noise impacts, aircraft are dispersed across different training areas to achieve a fair distribution of noise across local communities. The majority of training (~70%) is conducted in the Eastern Training Area located overwater.

14. Where possible, RAAF Base WLM will advise the local community of non-routine flying events. This is not always possible due to changes in weather conditions or operational restrictions, which may require aircraft to operate over land training areas more frequently. Members of the public can access information regarding planned and non-routine flying via the Williamtown Flying Operations web site.

15. RAAF Base WLM has a single runway (see diagram in Annex A) 12/30 aligned south-east/north-west. Raymond Terrace is north-west of RAAF Base WLM, close to the aircraft routes for Runway 30 departures and Runway 12 arrivals. Runway 12 is serviced by an Instrument Landing System used to guide pilots to a safe landing in poor weather.

16. Preferred runway use is determined primarily by wind direction and is stipulated by Air Traffic Control (ATC) to ensure safety of flight. When ATC is not active, pilots determine the most suitable runway by examining the wind conditions from weather reports and also wind socks located at the airfield.

Variations to standard aircraft operations

17. The most common foreseeable variation to the regular flying schedule at RAAF Base Williamtown is visiting aircraft from other Bases. At times, aircraft may operate outside normal airfield operating hours with approval granted by the Williamtown Air Base Executive Officer. Attempts will be made where possible to advertise changes to the community.

[1] E-7A aircraft generate similar noise levels of normal domestic Boeing 737 aircraft.

Defence has an extensive range of aircraft with differing engine configurations including:

a. F/A-18F Super Hornet, twin jet engine
b. EA-18G Growler, twin jet engine
c. C-17A Globemaster III, four turbofan engines
d. Boeing B737 Business Jet, two turbofan engines
e. C-130J Hercules, four turboprop engines
f. C-27J Spartan, two turboprop engines
g. Dassault Falcon 7X, Tri- turbofan engines
h. P-8A Poseidon, two turbofan engines
i. P-3C Orion, four turboprop engines
j. B350 King Air, two turboprop engines
k. Various single and multi-rotor aircraft, single and twin turboshaft engines
l. Visiting aircraft types from International Defence Forces.

18. Unforeseeable variations (caused by inclement weather and aircraft serviceability issues) will occur from time to time. Noise control minimisation measures will be implemented as required where possible.

Williamtown noise minimisation

19. RAAF Base WLM maintains guidelines such as Base Standing Instructions and Range Standing Instructions, designed to provide a baseline for aircraft operations on Defence managed lands. These instructions are adhered to by all operators. Some of these instructions are designed to reduce noise impacts from aircraft operations. Air Combat Group (ACG) also has Standing Instructions which provide the basis for aircraft operations flown by all ACG aircrew. These include:

a. **Fly Neighbourly procedures.** ACG has developed fly neighbourly practices and guidance for subordinate units, including those that will operate the F-35A. The policy provides specific guidance for RAAF Base Williamtown, however a summary of the main generic noise management guidelines are as follows:

(1) Noise management is a briefing item for all flying. ACG aircrew conduct operations with due cognisance of the impact of noise on communities and residents under or in the vicinity of the flight path.

(2) Departure and arrival measures include:
   i. The majority of departures to the north should occur over Grahamstown Dam and out over Medowie State Forest and Conservation Area.
   ii. Pilots should not fly over Medowie below 1066m (3500 ft), and where practical avoid direct over flight of Medowie, Tanilba Bay, Lemon Tree Passage and Raymond Terrace.
   iii. Jet aircraft will climb quickly to, or descend from 762 metres (2500 ft) at the 3.7km (2 nm) limit from the base, so there should be a decrease in noise levels for people living under the flight paths in and out of the Base.

(3) Noise abatement procedures are adhered to within 10 nautical miles (18.5 kilometres) of the airfield which complements extant local procedures.

(4) Low level coastal transits are flown such that all aircraft remain at least 1nm (1.8 kilometres) off shore in the vicinity of urban areas. The exception to this is coastal corridors near the Airbase – whereby aircraft are required to conduct

coastal transits to assist airspace management and as directed by Air Traffic Control.

(5) These noise abatement departure procedures are cancelled in the event of air traffic management directions or unsuitable weather conditions. In these circumstances standard visual or instrument departure and arrival procedures apply, as safety remains the primary consideration.

b. **Aircraft engine maintenance ground operations.** Post-aircraft maintenance may require installed engine ground testing across all power settings. This particular type of testing is performed during the day wherever possible, but may at times be during the evening for operational reasons. The following time restrictions apply to all fast jet engine runs at RAAF Base WLM:

(1) Between 0700hr to 2200hr - no restrictions

(2) Between 2200hr and 2359hr, any engine runs are not to exceed a 75% power setting with sustained 75% run durations of no longer than 20 minutes with a 15 minute break between runs

(3) Ground idle runs can be carried out until 2359hr with no set duration

(4) Squadron B-shift ENGO / B-shift COORDs will be responsible for the validity and approval of all runs after 2200hr (ie required to bring the aircraft up as serviceable for the morning flying).

(5) Hornet flight-line only: For engine runs above 75% N2 and less than 80% N2 on the Hornet flightline a time limit of 3 minutes total applies

F-35A noise management

20. **Departure power settings.** As a condition of operating the F-35A at WLM, Air Force has agreed to restrict departure power settings to the maximum extent possible in order to limit noise to affected communities. A lower engine thrust setting may also be used to reduce noise emissions. The guidelines for Engine Thrust Request (ETR) settings during departures by F-35A include:

a. Either military thrust (100% ETR) or afterburner during takeoff and initial climb. Where possible military thrust is to be used, except when additional thrust is required for operational or safety reasons, such as heavy-weight operations and adverse runway surface conditions. It is anticipated that approximately 20% of F-35A takeoffs at RAAF Base Williamtown will require afterburner

b. Following initial climb, when safe to do so, a reduced ETR setting will be selected, IAW with EIS conditions of consent, once the aircraft has reached a safe flying speed and altitude.

21. Enclosure 1 contains details on the way in which F-35A operations will comply with the EPBC 2010/5747 Conditions of Approval.

Low flying

22. Low flying is defined as flight below 500 ft (152m) over a non-built up area or 1,000 ft (304m)' over a built up area, above obstacles within 968 ft (600m).

23. Designated low flying training areas are north of Williamtown and are named the

Eastern and Western Low Flying Areas and Western Training Area. Refer to the Williamtown Flying Operations web site for more details.

24. Aircraft are approved to operate down to 150' (45m) AGL to support effective weapon employment training on SAAWR.

RAAF Base Williamtown Airspace

25. In addition to the SAAWR, aircraft operating from RAAF Base Williamtown utilise nearby General Flying Training Areas (GFTAs) and Low Flying Areas (LFAs) for training and exercises. The locations of the local training areas are shown in Figure 1.

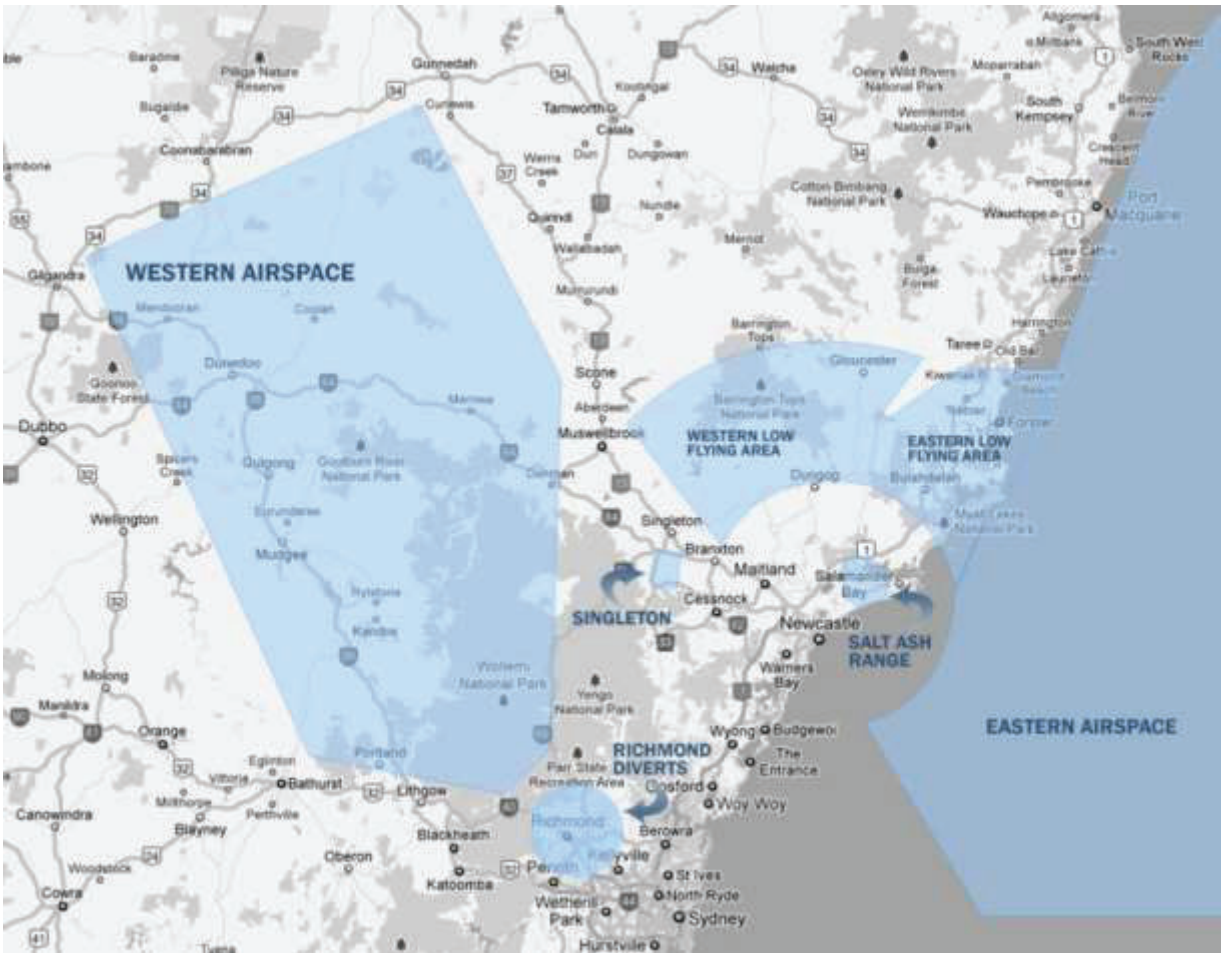

Figure 1: RAAF Base Williamtown Airspace

Working with Community

26. Residents should consider the Australian Noise Exposure Forecast (ANEF) map for RAAF Base Williamtown, which provides information about aircraft noise exposure. ANEF maps provide a forecast of anticipated noise for a future period, for that location. The ANEF does not show every flight path and homeowners with properties outside of the ANEF map zones may still experience aircraft noise. The Noise and Flight Path Monitoring Systems (NFPMS) has been developed to provide a more accurate and useful record of flight paths of all aircraft and noise events. The Environmental Impact Statement for the F-35A aircraft, which will commence flying as from December 2018 should also be referred to for additional information regarding noise exposure.

27. RAAF Base Williamtown communicates regularly with the local council and community about on base operations in a variety of formal and informal means. The Williamtown Advisory Group is an important mechanism for local interaction and discussion in relation to aircraft noise. The RAAF Base Williamtown and Salt Ash Air Weapons Range flying operations web site provides details.

28. RAAF Base Williamtown makes all attempts to advise local communities of non-routine flying operations via Media Releases, social media, Williamtown Flying Operations web site, a 1800 number, and emails to local registered community residents. Annex B provides the Air Force Fly Neighbourly Policy.

29. Advance publication of flying activities over the SAAWR are provided in the Port Stephens Examiner at least twice each year. Media Releases and advisories are issued in the weeks prior to SAAWR flying activities.

Noise monitoring

30. Defence operates Noise and Flight Path Monitoring Systems (NFPMS) to provide the community information about aircraft noise associated with military operations. The NFPMS website can be accessed at this link Noise and Flight Path Monitoring System. On this site, RAAF Base Williamtown has an interactive and accessible database which can be used to develop reports of aircraft flight paths and volume of aircraft traffic. The site also provides details of the monitoring station locations around RAAF Base Williamtown. The stations are not located in training areas outside the immediate Williamtown area.

31. The NFPMS was developed by Defence to provide a public record of flying activity at RAAF Base Williamtown and SAAWR. The NFPMS allows individuals to gain an understanding of all flying activity in the vicinity of the Base. Defence uses the data to publish a monthly report of fast jet flying activity, and all aircraft flight activity.

32. An example of the interactive NFMPS quarterly report for RAAF Base Williamtown at Figure 2.

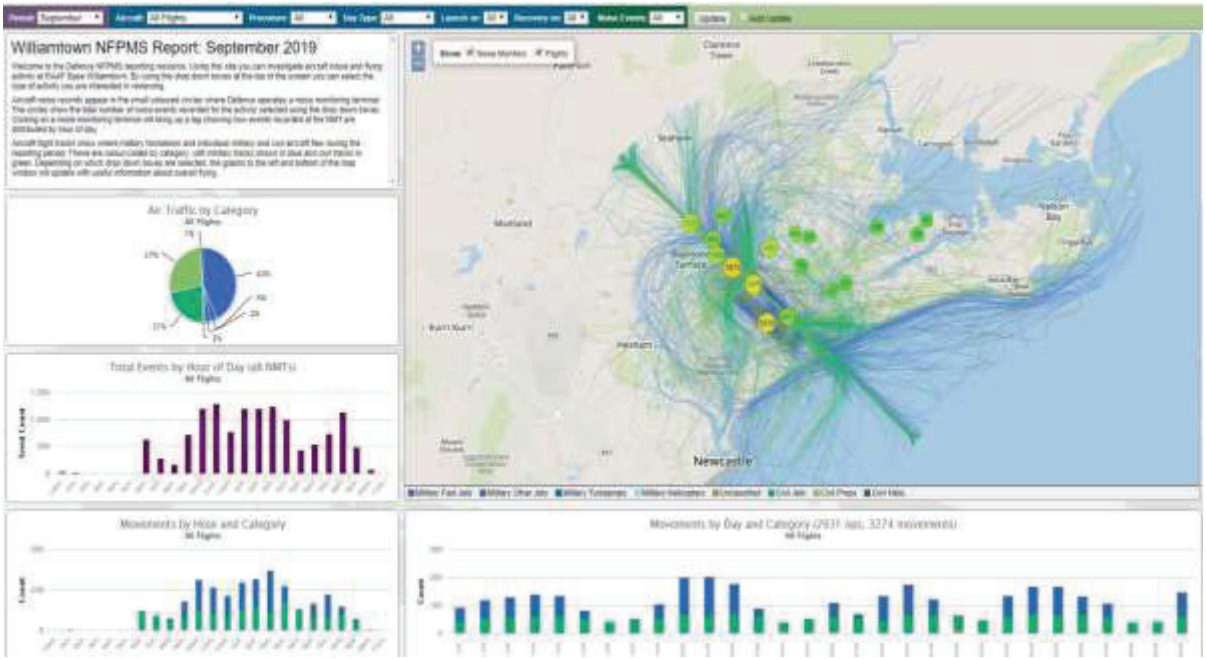

Figure 2: RAAF Base Williamtown NFPMS November 2018 Report

Noise complaints

33. Complaints regarding Air Force aircraft noise should be made to the Noise telephone line on 1800 033 200 or submission of an Aircraft noise complaint/enquiry form.

34. On receipt of a noise complaint, a Defence member will initiate an investigation to determine the occurrence and likely operating Squadron. Contact will be made to the complainant to provide information on the nature of the operations to the query. Complaints relating to civilian aircraft will be directed to Newcastle Airport.

35. All completed investigations are forwarded to Air Force Head Quarters Aircraft Noise/Environment, Canberra for further vetting. Noise complainants are able to contact the Aircraft Noise Ombudsman web site or:

Aircraft Noise Ombudsman GPO
Box 1985
Canberra City ACT 2601

ano@ano.gov.au

Review and update process

36. This document will be reviewed annually.

Annexes:
A. Williamtown Noise Abatement Procedures
B. Air Force Fly Neighbourly Policy

Enclosure:
1. Compliance with Condition 3 for EPBC Approval 2010/5747 (F35A

ANNEX A TO
G13423393
02 DECEMBER 2020

WILLIAMTOWN NOISE ABATEMENT PROCEDURES

1. The following procedures apply to all fast jet operations from RAAF Base Williamtown. The safe operation of the aircraft should not be compromised in attempts to adhere to noise abatement procedures. Poor weather, emergencies and specific Air Traffic Control restrictions are examples where aircrew may make deliberate decisions to operate their aircraft in contravention to the guidelines below. However, aircrew should make a clear distinction between variation from these guidelines due to valid external factors and variation due to convenience.

2. The departure and arrival procedures apply in visual approach/departure conditions only. They do not apply to Standard Instrument Departures, SAAWR departures, Instrument Meteorological Conditions (IMC) or Special Visual Flight Rules (VFR) operations, or when given specific ATC directions. Nor do they relax the requirements to avoid SAAWR if directed.

3. RAAF Base Williamtown flying operations generally require aircraft to track direct to their assigned training area or transit corridor once they are clear of the circuit area. Primarily dependent on weather conditions, aircraft will be given either a visual departure, or a Standard Instrument Departure (SID).

4. **Departures.** The following departure procedures should be followed:

a. **Runway 12.** Climb straight ahead to 3 nautical miles (nm) (5.56km)or 2,500 ft (762m) AMSL (whichever comes first) prior to turning for departure heading. The intent is to avoid Banksia Grove and then conduct the majority of the departure over water.

b. Runway 30:

(1) Gate 1-6, Hunter Corridor, and northerly departures in general. Climb straight ahead to 2nm (3.7km). The intent is to fly over Grahamstown Dam and turn to departure gate once above 3,500 ft (1066m) AMSL or upon reaching the northern shore of the dam. This should ensure aircraft turn to departure gates either north of Medowie or overfly Medowie not below 3,500 ft (1066m) AMSL. To achieve this either fly the above track visually from 2nm (3.7km) or at 2nm turn heading 360°, at 5nm (9.26km) or 3,500 ft(1066m)AMSL (whichever comes first) turn right to departure heading.

(2) Gate 7, Nowra 5, and southerly departures in general. Climb straight ahead to 2nm (3.7km). At 2nm, turn left to departure heading. Where possible, avoid delays to the left turn to minimise overflight of Raymond Terrace.

c. For either runway, be established on outbound track direct to gate (if applicable) by 10nm (18.2km).

d. Aircrew may request, or ATC may direct, cancellation of noise abatement departure procedures due traffic management or weather considerations. In these circumstances standard visual departure procedures apply.

5. **Recoveries.** Where practical avoid direct overflight of Medowie, Tanilba Bay, Lemon Tree Passage and Raymond Terrace. In general, where possible, aircraft should not fly below 2,500’ (760m) AMSL until through the Initial Point (IP).

6. The intent on aircraft Recoveries is to allow visual recoveries via Initial and Pitch at altitudes down to 1,500ft (457m) AMSL where required due to weather. There is no intent to increase the number of instrument recoveries that are flown as this is counterproductive to reducing noise levels.

7. **Circuit procedures.** Aircrew will avoid extending downwind Runway 12 over Raymond Terrace if practical.

8. **SAAWR.** The following concepts apply to operations at SAAWR:

a. Where appropriate, the number of passes flown as SAAWR is to be minimised. This particularly applies to low angle profiles.

b. Where practical, formations of four at SAAWR should occur on high angle bombing missions, and low angle profiles where practicable.

c. Aircrew are to ensure only domestic recoveries are flown, with minimum power settings and nose up as sensible to minimise noise.

ANNEX B TO
G13423393
02 DECEMBER 2020

AIR FORCE FLY NEIGHBOURLY POLICY

1. Air Force is working with local communities near airbases, training areas and air weapons ranges to reduce noise impacts whilst balancing operational and training requirements.

2. Air Force commits to undertake flying operations in a manner which is considerate of our local communities, whilst maintaining safe operation of our aircraft and achieving the required levels of capability. Guided by these principles Air Force will:

a. comply with published airfield noise abatement procedures

b. use appropriate runway length for departures to maximise height over local communities

c. minimise the use of afterburner on fast jets during take-off and minimise noise during climb out

d. limit the speed of aircraft over populated areas

e. minimise flight over residential areas and other noise sensitive buildings such as hospitals, schools and farming communities

f. avoid low flying over known noise sensitive areas such as livestock yards

g. minimise flying late at night or early in the morning

h. include aircraft noise awareness in pilot training and familiarisation

i. notify local communities of major exercises or other non-routine training and flying activities such as flying displays.

3. To further minimise noise at some bases Air Force will:

a. limit continuous circuit training at night and on weekends and public holidays

b. use satellite airfields for repetitive aircraft circuits

c. vary flight paths to share noise

d. consider continuous descents to reduce noise

e. implement local engine run-ups procedures

f. minimise jet or turbo prop engine testing at night.

4. Refer to the Defence Aircraft Noise web site for all details.

ENCLOSURE 1 TO
G13423393
02 DECEMBER 2020

COMPLIANCE WITH CONDITION 3 OF EPBC APPROVAL 2010/5747 FOR FLYING OPERATIONS OF THE F-35A LIGHTNING II

Background

1. F-35A Lightning II flying operations in Australia are subject to the conditions set out in EPBC approval 2010/5747.

2. Condition 3 of the approval requires Defence to prepare and implement aircraft noise management plans at RAAF Bases to minimise noise disturbance to sensitive receptors from the flying operations of the F-35A aircraft. Defence is also required to develop and implement corrective measures to the satisfaction of the Environment Minister if F-35A noise and flight activity levels exceed those predicted in the Environmental Impact Statement (EIS).

3. Figure 1 details sensitive receptors and other points of interest (POI) around RAAF Base Williamtown, including populated areas such as Raymond Terrace, Medowie and Salt Ash.

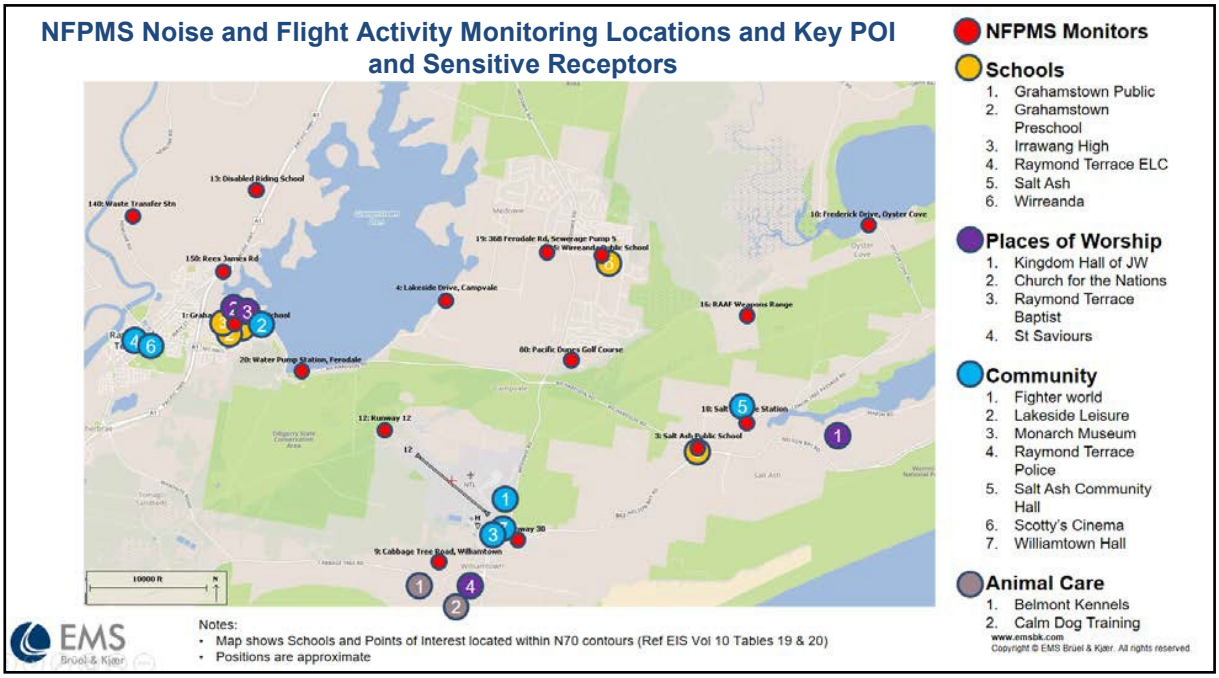

Figure 1: RAAF Base Williamtown Noise and Flight Path Monitoring System (NFPMS) – Noise and flight activity monitoring locations

F-35A Introduction

4. The first F-35A aircraft will arrive at RAAF Base Williamtown in December 2018, with regular flying operations beginning in early 2019. Throughout 2019 and 2020, F-35A will conduct a Verification and Validation (V&V) program to inform an Initial Operating Capability in late 2020. Final Operating Capability is scheduled for late 2023, after the full complement of 72 aircraft have arrived in Australia. Throughout the V&V program, F-35As will conduct limited detachments to RAAF Bases Amberley (2019), Tindal/Darwin (2020)

and Townsville (2020). Regular F-35A flying operations will begin at the second Main Operating Base (MOB) of RAAF Base Tindal during 2022.

Defence Policy and Existing Noise and Flight Activity Management

5. Existing noise and flight activity management programmes include Air Force's Aircraft Noise Management Policy 2018-2023, Air Combat Group's Fly Neighbourly Policy, Base Noise Management Plans, the Hazard and Noise Database, and Air Traffic Control noise abatement procedures. F-35A operations will adhere to all Defence policy, management strategies and procedures. Air Force policy and procedures will adapt and evolve as experience operating F-35As increases.

Noise and Flight Activity Predictions

6. The 2014 EIS contains predictions of F-35A noise associated with flight activity. The EIS includes an extensive range of noise predictions that can be broadly grouped as follows:

a. **How loud is each F-35A flight?** This is a prediction of the maximum noise level from each F-35A flight at a given location (L_{Amax}) with separate predictions for F-35As arriving and departing and using reduced thrust.

b. **How often will the F-35A be heard?** This is a prediction of how often the F-35A will be louder than 70dB, 85dB and 100dB at a given location (N70, N85 and N100).

c. **How much total noise will the F-35A produce?** This is a prediction of the Australian Noise Exposure Forecast (ANEF), and means when the F-35A is fully operational, how much noise will the aircraft produce over a year.

Noise and Flight Activity Monitoring

7. Defence operates Noise and Flight Path Monitoring Systems (NFPMS) to monitor and report information about aircraft noise and operations associated with military operations at RAAF Bases Williamtown, Townsville and Amberley. NFPMS noise and flight activity monitoring locations at RAAF Base Williamtown are detailed in Figure 1. The NFPMS data is available in the public domain in a simple to understand format.

8. Defence will validate the EIS predicted noise and flight activity levels against actual F-35A data using the NFPMS over a five phase verification program. The five phase program is detailed in Table 1.

Compliance with Conditions of Approval

9. How Defence will comply with Condition 3 of EPBC Approval 2010/5747 is detailed in Table 2.

Table 1: F-35A Noise and Flight Activity Verification Program

	Phase 1: Baseline	Phase 2: Initial	Phase 3: Detailed	Phase 4: Conclusions	Phase 5: Ongoing
Year	2010 - 2018	2019	2020	2021	2022
Main Operating Bases	Williamtown	Williamtown	Williamtown	Williamtown	Williamtown and Tindal
F-35 Operations	-	Limited *(2 – 8 aircraft)*	Increasing *(up to 33 aircraft)*	Initial Operating Capability (IOC) *(up to 48 aircraft)*	Williamtown Ongoing *(up to 49 aircraft)* Tindal Limited *(up to 15 aircraft)*
Objectives	Noise baseline	Initial checks	Build Data Set	Comparison to prediction	Sustained monitoring
Key Elements	Long term noise data set	Initial data collection of noise and flight activity • **LAmax** initial checks • F-35A procedures checks	Build decisive data set • Verify **LAmax** • Check key assumptions used to generate long term noise predictions • N70,85,100 • ANEF	• Monitoring checks at Forward Operating Bases • Compare results to predictions • Investigate materiality of any exceedance • Determine if corrective measures required • Implement & verify corrective measures (if required)	Report Consult Review Update
Deliverable		Letter of Commencement to the Department within 10 days of commencement of operations (planned to be mid-January 19). Annual Compliance Report January 2019 - January 20 published on Defence Noise Website by April 2020 Annual review of BNMPs conducted by March 2020.	Annual Compliance Report January 2020 - January 21 published on Defence Noise Website by April 2021. Annual review of BNMPs conducted by March 2021. Base Noise Management Plans of RAAF Base Townsville due to the Department July 2020.	Annual Compliance Report January 2021 - January 2022 published on Defence Noise Website, and Biennial Compliance Report January 2019 – January 2020 due to the Department by April 2022. Annual review of BNMPs conducted by March 2022. Biennial Compliance Report January 2019 – January 2020 due to the Department by June 2021. Annual review of BNMPs conducted by Mar 2022. Base Noise Management Plans of RAAF Bases Tindal and Darwin due to the Department July 2021.	Biennial review from 2023 of BNMPs conducted by March 2024.

Table 2: Compliance with Condition 3 of EPBC Approval 2010/5747

Condition	Condition Requirement	Response
3	Prepare and implement Aircraft Noise Management Plan(s), as described in the Aircraft Noise Management Strategy, at RAAF Base(s) to minimise noise disturbance at sensitive receptors from the flying operations of the F-35A Lightning II aircraft. The plan(s) must include, but not be limited to, the following measures:	RAAF Bases, as defined by the approval definitions, are the main operating bases RAAF Bases Williamtown (including Salt Ash Air Weapons Range), Tindal, Townsville and Darwin. Sensitive receptors (places that are likely to have a high sensitivity to noise emissions) at RAAF Base Williamtown are highlighted in Figure 1 of this document and include schools, places of worship, community and animal care. The F-35A EIS projected the sensitive receptors that are within the N70, N85 and N100 ratings in Volume 2, Tables 9.8 and 9.9. Air Force has prepared the RAAF Base Williamtown Aircraft Noise Management Plan (Document ID: G1082525/G14263835). It is an operational document which addresses noise arising from all Air Force aircraft permanently based at RAAF Base Williamtown and Salt Ash Air Weapons Range, including F-35A aircraft. The RAAF Base Williamtown Aircraft Noise Management Plan is prepared and implemented as described in, and works towards the objectives of, the Air Force Aircraft Noise Management (ANM) Policy. Air Force maintains an Australia-wide Hazard and Noise Database (HAND), which is centrally updated periodically and depicts all hazards and noise sensitive areas on a map. Pilots use HAND data in order to plan low level flying operations outside of Air Traffic Control (ATC) controlled airspace. When within ATC controlled airspace, pilots follow ATC procedures for arrivals, departures and training profiles (practice circuits and instrument approaches). RAAF Base Williamtown will be a key location for Australia's F-35A aircraft. The first F-35A aircraft will arrive at Williamtown in December 2018 and commence flying operations in early 2019. Ultimately, three of Australia's four squadrons of F-35A aircraft will be based at Williamtown. Numbers of F-35A aircraft will be low at first with the full complement of F-35A aircraft at Williamtown anticipated to occur in late 2023. This will coincide with the progressive retiring of F/A-18 aircraft from service at RAAF Base Williamtown. F-35A flying operations will commence at other RAAF Bases (as defined above and include RAAF Bases Tindal, Darwin and Townsville) no earlier than 2020. Aircraft Noise Management Plans for those Bases will be developed and submitted for approval prior to the commencement of F-35A operations at those locations, in accordance with the F-35A Noise and Flight Activity Verification Program at Table 1. This approval condition is supported by Air Force's Aircraft Noise Management Policy. See link http://www.defence.gov.au/AircraftNoise/_Master/Docs/Default/AirForceAircraftNoiseManagementStrategyBrochur e2018.pdf

3.a	Comparison of actual flight activity of F-35A aircraft with those predicted in the Environmental Impact Statement;	The flying Rate of Effort of the F-35A will initially be low from January 2019 and will increase to a 'normal' level with a representative complement of aircraft at Williamtown in December 2021 (full complement of aircraft will occur by end of 2023). At this time, all of the F/A-18A/B Hornet operations will have been replaced by F-35A operations. Chapter 5.4 of the Draft Environmental Impact Statement describes the proposed flying operations of F-35A aircraft. This includes information regarding: ● hours of operations ● movement of aircraft ● flight profiles to include data such as altitude, frequency, departures, arrivals and touch and go circuits ● flight paths ● variations in activity levels In accordance with the F-35A Noise and Flight Activity Verification Program at Table 1, Defence will collect actual flight activity data (hours of operations, movement of aircraft, flight profiles, flight paths and variations in activity levels) using the NFPMS. The NFPMS will collect data continually, and will inform an annual compliance report. Each annual compliance report from 2019 will contain collected data with commentary about the consistency with the long-term predictions assuming a full complement of aircraft. The reports will be published in accordance with the timelines indicated in Table 1. The annual compliance report will be published on Defence's Aircraft Noise website where the F-35A Conditions of Approval are listed.
3.b	A review of existing noise management programmes	Existing noise and flight activity management programmes include Air Force's Aircraft Noise Management Policy 2018-2023, Air Combat Group's Fly Neighbourly Policy, RAAF Base Williamtown Aircraft Noise Management Plan, the Hazard and Noise Database, and Air Traffic Control noise abatement procedures. Air Force is committed to reducing noise impacts on local communities while balancing operational and training requirements. At RAAF Base Williamtown, changes to operating procedures have already been implemented to minimise noise on communities and sensitive receptors in preparation for the arrival of the F-35A. For example, the default runway has been changed to avoid overflights of Medowie and Raymond Terrace when prevailing weather conditions and traffic patterns allow. Whenever the Instrument Landing System (ILS) is required (prevailing weather conditions and training requirements), for safety reasons the F-35A will approach over Raymond Terrace.

		Air Combat Group's Fly Neighbourly Policy was developed in 2012 to minimise noise impacts for particular sites around RAAF Base Williamtown. Elements of this policy are explained in the RAAF Base WLM Noise Management Plan. Air Force's Aircraft Noise Management Policy and the Fly Neighbourly Policy contain a commitment to conduct a biennial evaluation of the aircraft noise management system. Air Force will review and evaluate the performance of the aircraft noise management system with the aim of validating the integrity of the system and ensuring continual improvement.
3.c	Monitoring, to validate predicted noise impacts to sensitive receptors at RAAF Base Williamtown (including Salt Ash Air Weapons Range), RAAF Base Tindal and RAAF Base Townsville. This must include, but not be limited to: i. An investigation of alternative noise measurement and analysis methods; ii. Utilisation of Noise and Flight Path Monitoring Systems (where installed), to provide ongoing noise information, and the development of a noise measuring system at RAAF Base Tindal; iii. Comparison of actual measured F-35A aircraft noise levels with those predicted in the Environmental Impact Statement; and	3c.i. The proposals presented in the EIS are current world's best practice in noise and flight activity monitoring. Noise and flight activity measurement and analysis methods in Australia are guided by technical, scientific and government organisations including Standards Australia and the Department of Infrastructure and Regional Development and Cities. Defence will continue to be advised by aircraft noise industry experts on how to comply with accepted and contemporary noise and flight activity measurement and analysis methods. Defence will conduct periodic reviews of the NFPMS to ensure best practice approaches for noise and flight activity monitoring are enacted. 3c.ii. Defence has been operating a Noise and Flight Path Monitoring System (NFPMS) at RAAF Base Williamtown since approximately 2002 which provides ongoing noise and flight activity information. The NFPMS collects noise and flight activity data which is then analysed and reported on the Defence Aircraft Noise Website at http://www.defence.gov.au/aircraftnoise. During V&V of the F-35A system throughout 2019-2020, finite testing activities will occur at RAAF Base Tindal which will enable a short term analysis of noise and flight activity in the area to ensure that condition 3c.iii can be met. An approved noise management plan, to include any systems required, will be operational at RAAF Base Tindal prior to the beginning of full-time F-35A operations in 2022. 3c.iii. Chapter 9 of the EIS includes predicted noise levels emitted by F-35A aircraft at RAAF Base Williamtown. The flying Rate of Effort of the F-35A will initially be low from January 2019 and will increase to a 'normal' level with a representative complement of aircraft at Williamtown in December 2021 (full complement will occur by end of 2023). At this time, all of the F/A-18A/B Hornet operations will have been replaced by F-35A operations. Using the data gathered by the NFPMS, an annual report will be produced which, from 2019, will include a comparison of actual noise measurements of F-35A aircraft (LAmax, N70, N85 and N100, and ANEF) with those predicted in the EIS.

	iv. Biennial review of noise monitoring locations, unless agreed with the Minister.	Defence will carry out this measurement and verification via the F-35A Noise and Flight Activity Verification Program at Table 1. The Noise and Flight Activity Verification Program will encapsulate the three main groups of predictions. • Noise levels for F-35A when it is arriving, departing, and whilst using reduced thrust in accordance with the flying conditions – (LAmax). • How often the F-35A will operate at noise levels over 70db (N70); 85dB (N80) and 100dB (N100). • Total noise over a year when the F-35As are fully operational – Aircraft Noise Exposure Forecast(ANEF). 3c.iv. The location of existing NFPMS noise and flight activity monitors have been selected by Defence in consultation with stakeholders, to record aircraft noise and flight activity at a significant number of sensitive receptors. In 2014, additional noise and flight activity monitors were added to the RAAF Base Williamtown NFPMS to ensure a better coverage across sensitive receptors. The noise and flight activity monitoring locations can be seen at Figure 1, and are listed below: • Bellevue St, Riverview Ridge. • Cabbage Tree Road, Williamtown. • Pacific Highway, Raymond Terrace. • Frederick Drive, Oyster Cove. • Grahamstown Public School. • Lakeside Drive, Campvale. • Pacific Dunes Golf Course. • Salt Ash Air Weapons Range. • Salt Ash Public School. • Waste Transfer Station. • Wirreanda Public School. A further six noise terminals were established in 2013 in consultation with the community. • Tanilba Golf Course. • Tanilba Primary School. • Finnan Park. • Ferodale Road, Medowie. • Salt Ash Fire Station. *(Source EIS F-35A - Volume 2 - 9.9)* Defence will conduct periodic reviews of the NFPMS to ensure best practice approaches for noise and flight activity monitoring locations are suitable. Defence will work with the local advisory groups which occur at least annually, as part of this review.

3.d	If actual measured F-35A aircraft noise levels, and flight activity exceed those predicted in the Environmental Impact Statement then corrective action be developed and implemented at RAAF Base(s) and forward operating RAAF Base(s), until an appropriate assessment of noise levels and flight activity has been reached, as agreed with the Minister.	As discussed in condition 3.c.iii, the data gathered by the NFPMS will be used to compare actual noise and flight activity measurements of F-35A aircraft (L_{Amax}, N70, N85 and N100, and ANEF) with those predicted in the EIS. Data will be gathered throughout 2019 and 2020 in accordance with the F-35A Noise and Flight Activity Verification Program at Table 1. The 'Conclusion' phase of the Program will occur in 2021. In this phase, the measurements of flight activity and noise levels will be analysed and compared to each of the predictions in the EIS to determine whether any potential exceedances have occurred. Any potential exceedances shall be comprehensively investigated to determine their significance and whether they constitute a *material* exceedance of the EIS predictions and hence require corrective measures to be undertaken. Details surrounding this investigation will be reported as per Table 1 and as required by Condition 3e.ii. Any required corrective measures will be implemented and verified in 2021, with a *report, consult, review and update* cycle to occur in the 'Ongoing' phase in 2022. Appropriate corrective measures will take into account environmental impact as well as operational, safety and training needs. Corrective actions will be applied until an agreement with the Environment Minister is reached.
3.e	Reporting, to ensure clear and timely public access to noise levels and flight activity monitoring data. This must include but not be limited to: i. conducting a biennial evaluation of the effectiveness of flight activity monitoring and programmes at RAAF Base(s) until agreed in writing by the Minister; ii. annual publication on the Defence Aircraft Noise website of: i. noise levels and flight activity monitoring data of the F-35A aircraft; and ii. a comparison of actual noise levels and flight	Defence publishes quarterly and annual NFPMS reports on the Defence Aircraft Noise website at http://www.defence.gov.au/aircraftnoise. The NFPMS reports include aircraft noise and flight activity information. 3e.i. Air Force's Aircraft Noise Management Policy commits Air Force to conducting a biennial evaluation of the noise management system. Through the Aircraft Noise Management Policy annual reporting process, Defence will compile information and evaluate the effectiveness of flight activity monitoring and programmes at relevant RAAF Bases using data provided by the NFPMS. 3e.ii Defence publishes quarterly and annual NFPMS reports on the Defence Aircraft Noise website at http://www.defence.gov.au/aircraftnoise. i. The NFPMS reports include aircraft noise levels and flight activity information. F-35A information will be included in the report from 2019 and published in accordance with the timelines detailed in Table 1. ii. The reports that respond to condition 3.c.iii (a comparison of actual and predicted noise levels), condition 3.a (a comparison of actual and predicted flight activity) and condition 3.d (investigation into the materiality of any potential exceedance) will be made available on Defence's Aircraft Noise website from 2019 in accordance with Table 1. Information addressing requirements a, b, c & d will also be made available on the website. 3e.iii The information requested in Condition 3 a, b, c, d will be outlined in the BANMPs, and documented in the annual report published on Defence's Aircraft Noise website.

	activity of the F-35A with those predicted in the Environmental Impact Statement. This must include, but not be limited to: a) noise management measures; b) days and hours of operation; c) flight paths used to reduce noise; and d) frequency and type of activities that occur at Salt Ash Weapons Range. iii. annual review and update of the Aircraft Noise Management Plan for the first three years following the commencement of the action, and then biennially, unless agreed in writing by the Minister.	Base NMPs are to be reviewed annually, in accordance with Air Force's Aircraft Noise Management Policy and the F-35A conditions of approval. Condition 9 will be adhered to in the review and update process. Approval condition also met through the application of Air Force's Aircraft Noise Management Policy. An abbreviated publically released version can be seen at: http://www.defence.gov.au/AircraftNoise/_Master/Docs/Default/AirForceAircraftNoiseManagementStrategyBrochur e2018.pdf
3.f	Consultation activities, to ensure adequate communication with stakeholders, including local residents and relevant authorities. Consultation activities must include, but no be limited to: i. regular review of communication arrangements with affected stakeholders and communities;	3. f. i. Defence has been conducting the biannual Williamtown Advisory Group (WAG) since 2012. The WAG provides a regular forum for local residents, local council representatives and state government officers to meet with senior Air Force officers to discuss areas of interest, including aircraft noise and local land planning. Defence has an open and honest approach about the noise experienced near Air Force Bases and training areas. Air Force is developing a RAAF Base Williamtown Community Engagement and Information Provision Plan (CEIP) in 2018. The CEIP will be developed for RAAF Base Tindal and for the Forward Operating Bases throughout 2019 and 2020. The Plan(s) will be reviewed annually. The CEIP will be uploaded on the Defence Aircraft Noise – RAAF Base Williamtown website, and subsequent base websites as nominated above.

	ii. clear and timely notification of information regarding varied flight activity and future plans, which may impact stakeholders, including but not limited to: i. days and hours of operation; ii. flight paths; and iii. higher noise events. iii. continued participation at community forums; and iv. development of a concise location specific package of key information related to noise levels and flight activity monitoring data that addresses community concerns in an easily understandable manner for the lay person.	3. f .ii. The Plan will outline current procedures (including media releases, media alerts, public notices, social media updates, email notifications and various noise and flight activity websites) to inform residents of non-routine aircraft operations (including but not limited to 3.f.ii (i), (ii) and (iii)) in accordance with the principles defined the Air Force Aircraft Noise Management 2018-23 Policy. 3. f. iii. The WAG is an on-going community forum that Defence is committed to participating in, on an ongoing basis. 3f.iv. Concise location specific information related to noise levels and operational flight activity monitoring is already available on the Defence Noise Website for Williamtown and Salt Ash, Tindal, Darwin, Townsville, Amberley, Edinburgh and Pearce. Defence will continue to refine and develop information for specific locations relating to noise levels and flight activity monitoring data as knowledge surrounding F-35A operations grows in accordance with Table 1. The information will be reviewed annually. Other information that is available to the community will be the annual reports published on the Defence Noise Website in accordance with the timelines set out in Table 1, and the quarterly and annual NFPMS reports as detailed in condition 3e.ii.
3.g	Complaint Handling and Resolution, to ensure enquiries and complaints about F-35A aircraft flying operations are received, recorded, reported, responded to and resolved, as defined in the Aircraft Noise Management Strategy.	Complaints handling and resolution is addressed in the Noise Complaints sections of the BANMP. Complaints regarding Air Force aircraft noise should be made to the Noise telephone line on 1300 333 362, and ask to be connected to the nearest base, or by submitting an aircraft noise complaint/enquiry form. On receipt of a noise complaint, a Defence member will initiate an investigation to determine the occurrence and likely operating Squadron. Contact will be made to the complainant to provide information on the nature of the operations to the query. Complaints relating to civilian aircraft will be directed to Newcastle Airport. All completed investigations are forwarded to Air Force Head Quarters - Aircraft Noise/Environment in or further vetting. Under a Memorandum of Understanding Defence has with the Aircraft Noise Ombudsman, complainants who are dissatisfied with Defence's handling of a noise complaint are able to contact the Aircraft Noise Ombudsman to seek redress. Noise complainants are able to contact the Aircraft Noise Ombudsman web site or:

		Aircraft Noise Ombudsman GPO Box 1985 Canberra City ACT 2601 Or email ano@ano.gov.au This is in compliance with the Air Force Aircraft Noise Management Policy Objectives 3.a and 3.b.
3 (condition end note)	The plan must be submitted to the Department for approval. The approval holder must not commence the action unless the Minister has approved this plan.	The RAAF Base Williamtown Aircraft Noise Management Plan was submitted to the Department of the Environment on 26 October 2018. The Plan was approved by a delegate of the Environment Minister on [insert date]. Air Force will develop Base Aircraft Noise Management Plans for operating and forward operating bases. Subsequent Base NMPs for Tindal, Townsville, Darwin, Pearce and Edinburgh are to be developed throughout 2019 and uploaded on the Defence Aircraft Noise website. Plans to be reviewed annually.