AUSTRALIAN NOISE EXPOSURE FORECAST

A new Australian Noise Exposure Forecast (ANEF) map has been prepared for RAAF Base East Sale. This new forecast replaces the existing 2012 ANEF, and forecasts military aircraft flying operations to the year 2035.

What is an ANEF?

Australian Noise Exposure Forecast (ANEF) maps are prepared for aerodromes in Australia and are used by local government when considering planning applications for new development in the vicinity of aerodromes.

ANEF maps are periodically updated to reflect changes in aerodrome operations including new aircraft and flight paths.

The ANEF considers the forecast noise from civilian and military aircraft operations around an aerodrome for a given year. For RAAF Base East Sale, this is the year 2035.

ANEF and noise modelling

ANEF maps are prepared using specialist modelling software, specifically designed for predicting aircraft noise in the vicinity of an aerodrome.

The ANEF model is based on the average annual noise exposure, accounting for:

- Aircraft movements (number of movements, flight paths and time of day)
- Aircraft type (engine power, rate of climb and noise level)
- Local topography and climate conditions.

The results of the noise modelling are drawn onto maps as noise exposure contours displayed in ANEF units ranging from 15 to 40. Higher value contour numbers represent higher noise exposure.

The ANEF can be used by local government in conjunction with Australian Standard 2021 – 2015 Acoustics - Aircraft Noise Intrusion - Building Siting and Construction. This standard provides guidance to determine whether land within a particular ANEF contour is suitable for new development, and whether sound insulation should be considered as part of new development.
Development of the 2035 ANEF for RAAF Base East Sale

The updated ANEF map for RAAF Base East Sale included noise modelling studies to establish baseline noise exposure as well as the assessment of alternative future operating scenarios.

As part of this process, three different types of Aircraft Noise Exposure contour maps were prepared. These are:

- **Australian Noise Exposure Index (ANEI)** - ANEI maps are based on historical aircraft movements and flying patterns for a previous year – in this case, the year 2015. ANEI maps are principally used as benchmarks or indicators of change of aircraft noise exposure.

- **Australian Noise Exposure Concept (ANEC)** - ANEC maps are produced to examine potential operating scenarios in the future. For example, examining flight path options or alternative aircraft operating procedures. ANEC maps are not intended for use in land planning by local government.

A 2035 ANEC was presented at the previous information session held in September 2016, and through the continued community & stakeholder engagement process, to obtain feedback.

- **Australian Noise Exposure Forecast (ANEF)** - Based on consideration of the ANEC, and feedback from local community and stakeholder groups, a single ANEC map is selected to be endorsed as the ANEF.

Noise levels experienced within and beyond the ANEF

ANEF maps and the related guidance contained in *Australian Standard 2021* are primarily concerned with land use planning and building treatments for new development sites in the vicinity of an aerodrome.

Importantly, the ANEF describes noise exposure over an average day and therefore does not describe the noise in the way in which an individual might experience it. An individual's impression will usually be based on observations and effects over shorter periods.

The 2035 ANEF is therefore not intended to represent the level of noise which may be experienced at a given location, nor does the ANEF represent the extent of areas which will experience aircraft noise.

**How can I found out more?**

A range of aircraft noise information is available at: www.defence.gov.au/aircraftnoise